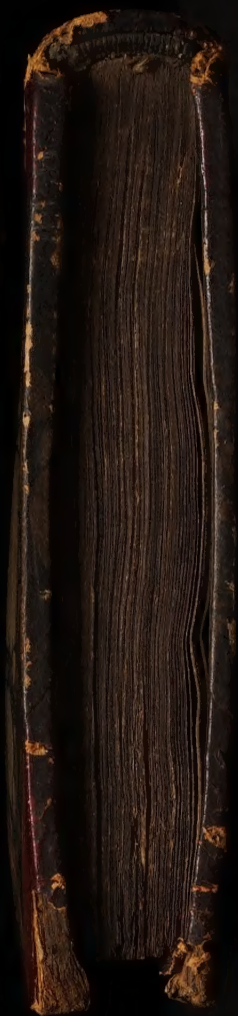




BULWEN

PHILOSOPHY



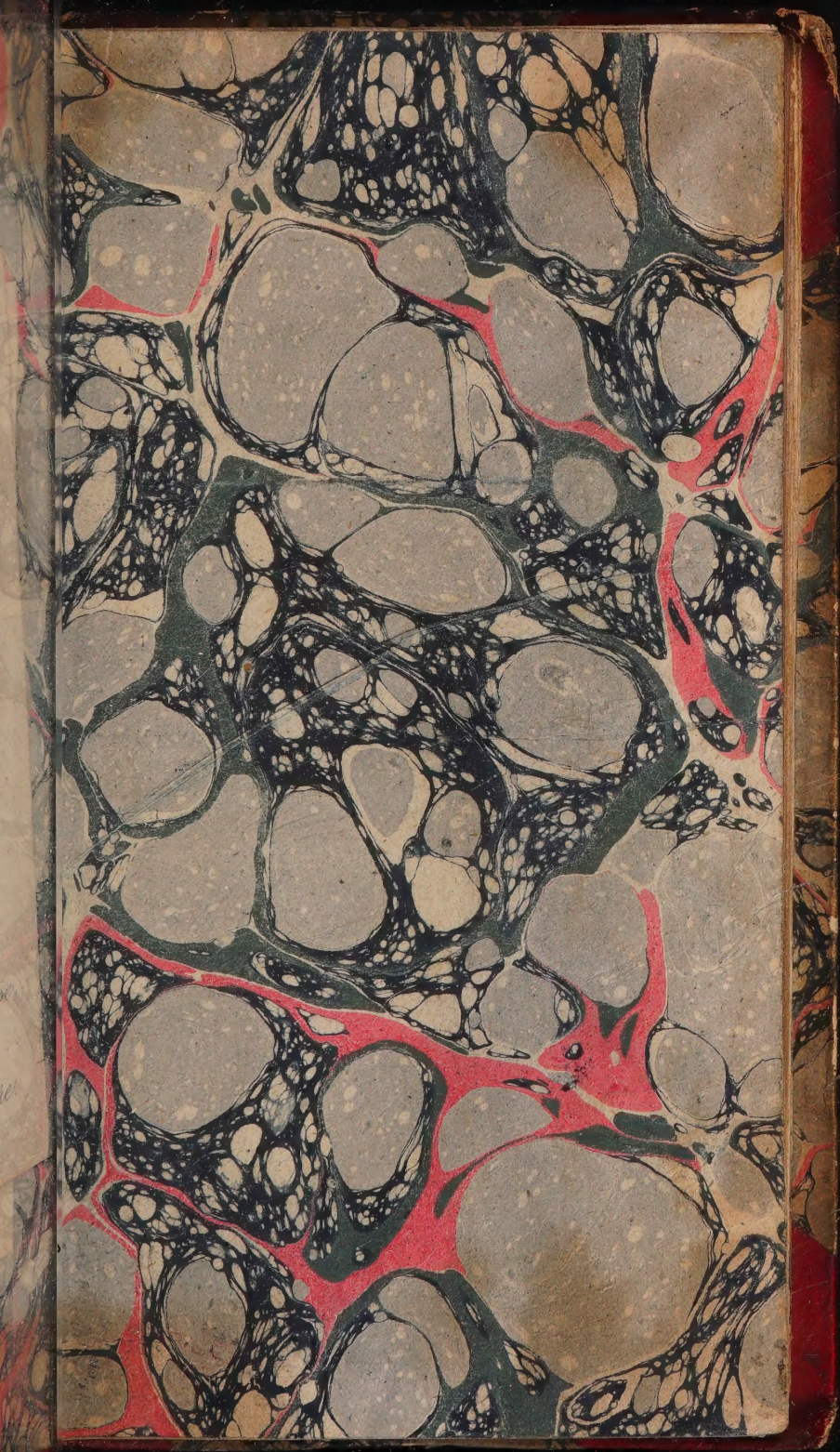






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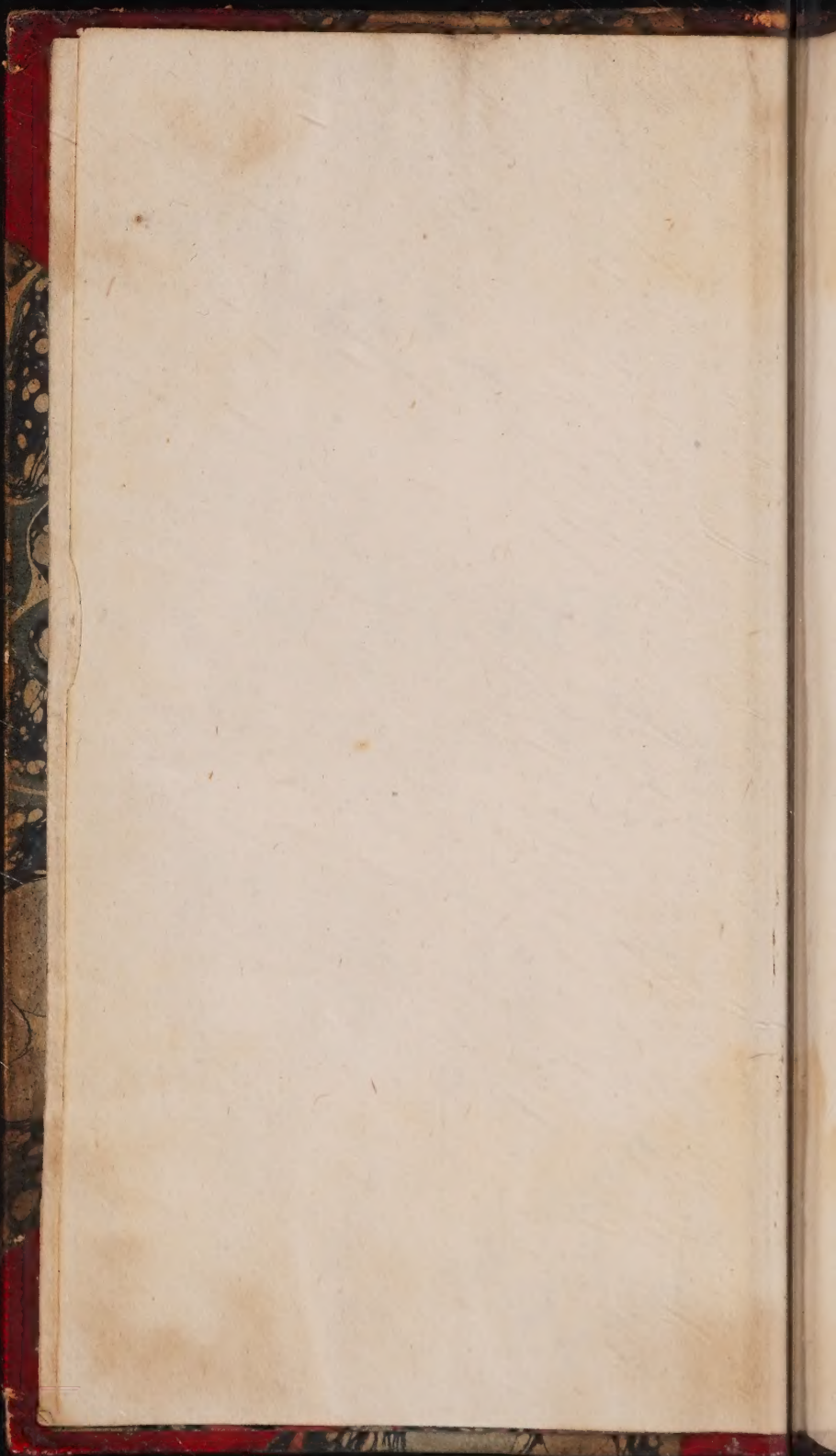
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by John BULWER

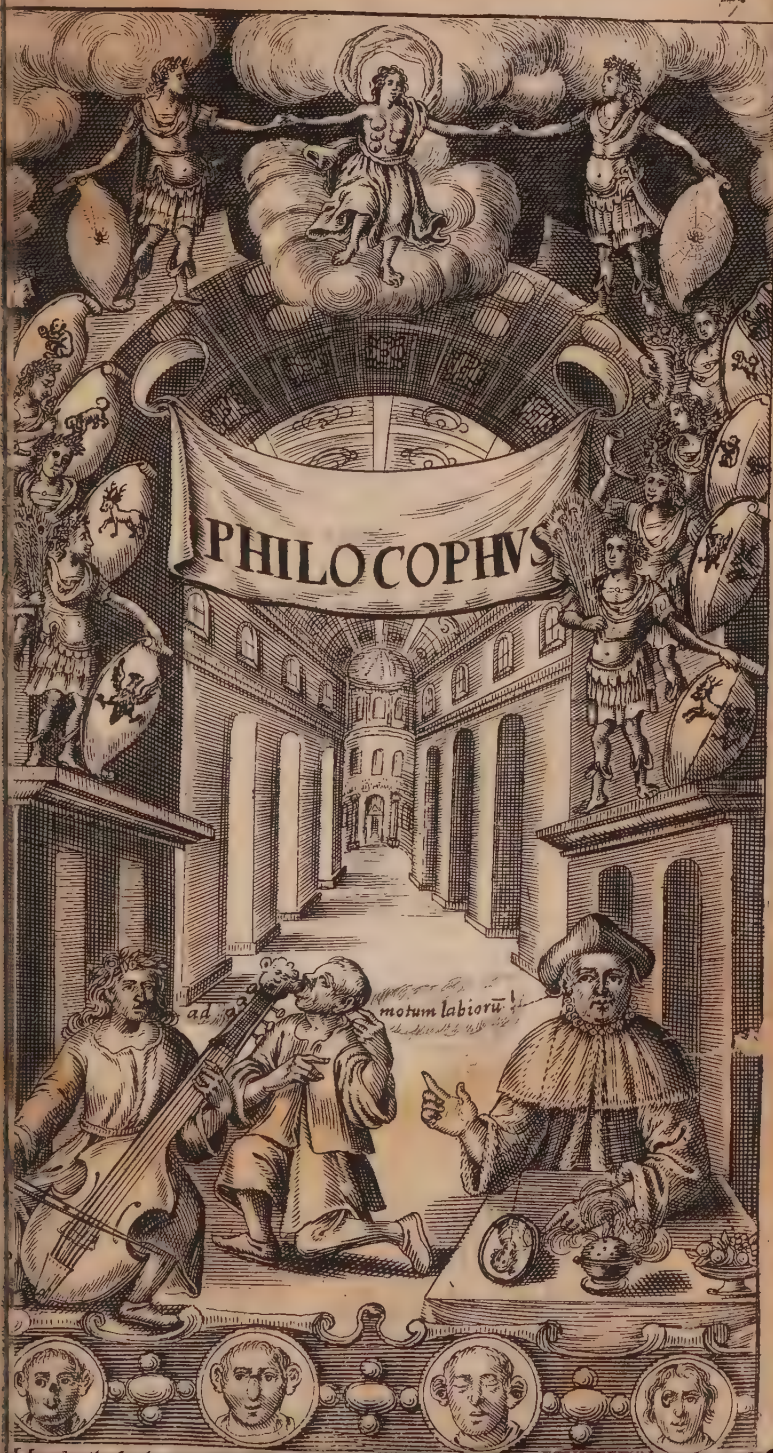
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*A Reflection of the sence and minde
of the Frontispiece.*

Nature reliev'd by Arts new might,
Reasons obnubilated sight
Clears up, and things which lay conceal'd,
Are to her doubtrfull eyes reveal'd.
To make the *Deafe* and *Dumbe* amends,
Illustrious Nature heere descends
To dance the *Senses Masque*; a Ball,
Which we their *Anagram* may call:
On each Hand the Scene keeping *Tact*,
Without whom life can nought transact;
The other Senses with this close:
The *Right*, the *Foure* transpos'd, oppose,
Th' *impreſſe* of whole shields relate,
Which for the other doth officiate.
Terpander who with *Lyrrique* Aire,
Could to the *Deafe* their losse repaire,
Directs them by his Musick's sound
To a late consecrated ground;
Where the *Common-Sense* a Guest,
They finde at an exchanging Feast
Of objects where each Sence may tast
The pleasures of that Sence lyes wast:
When lo! the *Genius* of the place,
Spake thus with a *Majestique* grace:
Sceptiques henceforth shall this repute,
The *Academy of the Muse*.
(An *Archicritique* highest grace)
Let there herein be no *Deafe* place!
Y are welcome all: more would have sayd,
When Nature thus her selfe displayd;
Heere I'll renounce my *Scep-Damo* part,
To honour so Divine an Art
That lends me crutches when I haule
Downright, into a *sensile* fault.





Philocophus :

OR,

THE DEAFE

AND

Dumbe Mans Friend.

EXHIBITING THE

Philosophicall verity of that subtile Art, which may inable one with an *observant Eie*, to *Heare* what any man speaks by the moving of his lips.

UPON THE SAME

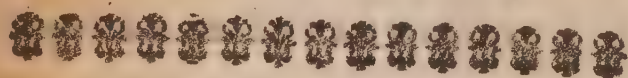
Ground, with the advantage of an Historicall Exemplification, apparently proving, That a Man borne Deafe and Dumbe, may be taught to *Heare* the sound of *words* with his *Eie*, & thence learne to speake with his Tongue.

By I. B. surnamed the *Chirosopher*.

Sic canimus Surdis —

London, Printed for *Humphrey Moseley*,
and are to be sold at his shop in Pauls
Church-yard 1648.



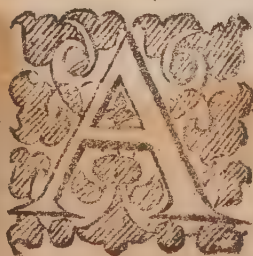


For the Right VVorps^{ll}

Sir Edward Gostwicke, of
Willington, in the County
of Bedford, Baronet,

And M. William Gostwick his yong-
est Brother: and all other intelligent
and ingenious Gentlemen,
who as yet can neither heare nor speake.

To be communicated unto them
that can, and have acquaintance or alli-
ance with any whom it may
concerne.



Mong the portentous
and prodigious Ti-
tles of the King of
Bisnaga (so called by
the Portugalls, but
by the learned Wri-
ters,

ters, Narsinga) Hee stiles himselfe,
*Master of those which know not how to
speake.* And the *Grand Signiour*, or
Emperour of the Turks, would take
it for no disparagement, to be cal-
led *Great Master of the Deafe and
Dumbe*; with whom *fifty* of your
Tribe are alwayes in *Delittiis*, and
he holds it a great part of his state
and magnificence, that he hath such
sacred persons as you dayly to con-
verse with as his Companions: And
although somewho understand not
the mystery of your condition,
looke upon you as *misprisions* in
nature; yet to me who have studi-
ed your perfections, and well ob-
served the strange recompences Na-
ture affords you, I behold nothing
in you but what may be a just ob-
ject of admiration! For even your
Privative Qualification is such, that
the extent of our apprehension
when it is most excessive, is but a
ble

ble to afford an expreffion thereof
our minde being much put to it to
take a nominall ſcantling of your
Quality, and it argues an admirable
power in our ſoule, that it is ſo nota-
ble an Engin, that it can raiſe a po-
ſitive notion out of privative : For
Deafenefſe and *Dumbeneſſe* being
privations and *Negatives*, wee can
eaſier ſay what you cannot doe,
then what you can : For, that is be-
yond our reach, poſitively to ſtate
your abilities, which may be ranked
with *honour*, *praiſe*, and *glory*, which
although they have ſo great an in-
fluence upon us ; yet wee know not
where to finde their ſubſiſtance, or
a ſufficient notion to define them
by.

What though you cannot ex-
preſſe your mindes in thoſe verball
contrivances of mans invention; yet
you want not *ſpeech*, who have your
whole Body, for a *Tongue*, having a
A 3 language

language more naturall and significant, which is common to you with us, to wit *gesture*, the generall and *universall language of Humane nature*, which when wee would have our *speech* to have life and efficacy wee joine in commission with our wordes, and when wee would speak with more state and gravity, wee renounce wordes and use *Nods* and other naturall signes alone.

This language you speak so purely, that I who was the first that made it my Darling study to interpret the naturall richnesse of our discoursing gestures, not onely to the distinguishing of all the Corporall and Nationall Dialects thereof, and regulating the naturall as Accessories and Adjuncts of Rhetoricall Elocution; but to the following of them downe to their spring-heads and originall, even to the finding out their *Radieall Derivations*

vations and *Muscular Etymologies* by that thorough progresse of observation, am fully satisfied that you want nothing to be perfectly understood, your mother tongue administering sufficient utterance upon all occasions : Inasmuch as being solicited on your behalfe by a worthy Friend of yours (who had observed you not onely to be affected but seemingly edified upon the sight of the Alphabets of my *Chirologia* or naturall language of the hand which hee had presented you with, to an endeavour of accommodating them more to your use ; I was enforced ingeniously to confesse , I could not improve them to any considerable advantage for you ; since you already can expresse your selves so truely by signes, from a habit you have gotten by using alwayes signes , as wee doe speech : Nature also recompencing your

want of speech, in the invention of
signes to expresse your conceptions:
Yet a while after having well obser-
ved by your multiplying signes and
gestures, that you earnestly desired
to unfold your lips to an *orall elocu-
tion*; seeming as if you accounted
your *dumbnesse* to be your greatest
unhappinesse; in tender pittie of
your case, I began to cast about
which way as a *Motist* to be service-
able unto you, by supplying a *medi-
um* of greater Discipline, whereby
you might arrive nearer unto the
intimate essences, of things, by ap-
prehension, whereof your intellect
might gaine somewhat a more pro-
per perfection: When coasting a-
long the borders of *gesture*, and
voluntary motion, I discovered a *com-
munity* among the *Senses*, and that
there was in the continent of *Huma-
nity*, a *Terraincognita* of *Ocular Au-
dition*; a treasure reserved for these
times,

times, which had escaped their pri-
vy search, who guided by the illu-
mination of their owne endeavours
had in *sudore vultus* ransackt the bo-
some of nature, wherein wisdome
had hid it among other Arts and
Sciences which have their founda-
tion in Nature, and neither grow
nor encrease but appeare when time
and observation unlockt them unto
us: Having well scanned this *Mag-
nale natura*, I found it to be one of
the subtlest pieces of Recondit lear-
ning, and that it bordered upon o-
ther avenewes unto the braine, as
Orall and *Dentall Audition*, of
which wee have discovered suffici-
ent ground to raise a new Art upon,
directing how to convey intelligi-
ble and articulate sounds ano her
way to the braine then by the eare
or eye; shewing that a man may
heare as well as speake with his
mouth. Upon which and other un-

looked for discoveries , I began in
Idea , to conceive the modell of a
new Academie , which might be e-
rected in favour of those who are
in your condition, to wit originally
deafe and dumb, for which Elifce
and Gymnasium having provided
all kinde of materialls requisite , I
soone perceived by falling into dis-
course with some rationall men a-
bout such a designe, that the attempt
seemed to *paradoxicall* , *prodigious*
and *Hyperbolicall* ; that it did ra-
ther *amuse* then *satisfie* their under-
standings , inso much as they tooke
the termes and expressions this Art
justly us-upes for insufferable viola-
tions of their reason , which they
professed they must renounce be-
fore they could have faith to credit
such an undertaking : For the satis-
faction therefore of such knowing
men, who yet are incredulous, and
too superstitiously devoted to the
received

received Phylosophy , I thought
good to hint the *Phylosophical verity*
of this *Art*, which I doe with the
greater assurance, having gained an
unanswerable Demonstration from
matter of fact ; for other matters
hinted they must expect credit u-
pon the like successe : Neverthe-
lesse heerein I shall not descend to
exact particulars , intending onely
to present the Ichnography of this
Art referring the inward contriving
of accommodations , and the me-
thod of operation to our intended
Academy : In the meane time for
the enlarging of your *Charter*, and
to bring you into a neerer incorpo-
ration of society and communion
with us : I here commend unto
you the *Accommodations* this *Art*
holds out, wishing you all in good
time a happy *metempsychosis* or *trans-*
migration of your senses, that so at
least by way of *Anagram* you may
enjoy

enjoy them all: That learning first
to write the *Images* of words, and
to understand the conveyances of a
visible and *permanent* speech; from
that *Hand A. B. C.* you may proceed
unto a Lip-Grammar, which may
enable you to *heare with your eye, and*
thence learn to speak with your tongue;
which benefits of Art when you
have attained, and are become capa-
ble of perusing this *tractate*, whose
argument is so new and strange, that
there was never so much matter
concerning you presented under
one object of the eye, containing a
narrative of your originall estate
with the supplementall advantages
thereof, the novelty and inventive
straine of this booke may at once
delight and profit you, which is the
hopefull wish of

Your officious Friend
and Historiographer

PHILOCOPIVS.



A D S U B T I L I S S I M U M

virum, D. Ioan. Bulwerum, cog-
nomento *Chirosofum*, sub
personâ *Philosophi*,

Surdis mutisque canticum novum, cum
discantu feliciter canentem.

Abdita Natura nobis miracula pan-
dis,

*Quae nescit Libris Plebs inimica bo-
nis.*

*Quae doctos latuere viros : latuere Pla-
tonis*

*Discipulum, quae Tu das, Stagerita
novus.*

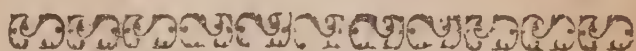
*Instituis Surdos, Mutos audire Magi-
stros*

*Dum Logicum faciunt meta labella so-
num.*

*Sic nunquam frustra narratur Fabula
Surdo,*

Si detur Surdis, posse videre sonos.

I. H. Oxoniensis auct. &c.



To his ingenious friend *Philocophus*,
on this *Foundation* of his intended
Academie.

REjoice you Deafe and Dumbe, your
Armes extend
T'embrace th'inventive goodnesse of a
Friend!
Who heere intends, for your reliefe, to
Found
An Academie, on *NATURES* high-
est ground:
Wherein He doth strange mysteries un-
locke,
How all the Sences have one common
Stocke,
Shewes how indulgent Nature for each
sence
Wanting, allows a double recom-
pence.
How she translates a sence, transplants
an Eare
Into the Eye, and makes the Optiques
heare.
Inoculates an Eare with sight; where-
by

It

It shall performe the office of an
Eie.

Presents rich odours Tasted, Viands
Smelt,

And Sound and Light in a strange maner
felt.

The senses (Arts new Master-piece)
are taught

T'exchange their objects by a new found
thought.

The Deafe and Dumbe get Hearing Eies,
which breake.

Their Barre of Silence, and thence learn
to speake

Words may be seene or heard : W'are at
our choyce

For to give Eare, or Eie unto a
Voyce.

Where men by their transposed senses
gaine,

This Anagramme of Art and Nature's
plaine:

Amicitia & Artis Transcendentia ergo

Tho. Diconson, *Med. Templ.*



A Table of such hints
and notions as more direct-
ly concerne Deafe and
Dumbe men.

THat men born Deafe and Dumb,
have a kinde of significant speech
and naturall Language ; and what
that is.

Wherefore it is that Deafe and
Dumbe men can expresse themselves
so lively by signes.

That all Deafe and Dumbe men,
seeme to have an earnest desire to un-
fold their lips to speech, as if they ac-
counted their Dumbnesse, their grea-
test unhappinesse.

That a man born Deaf and Dumb,
may be taught to heare the sounds of
words with his eyes.

The strangeness of that expression,
abated and qualified, by proving a
community among the Sences, and
their mutuall exchanging of objects.

And Hearing to be nothing else but
the due perception of motion.

A notable example of Hearing
sounds with the eye, in a Spanish
Lord, who was borne Deafe and
Dumbe.

The causes why men are borne
Deafe and Dumbe, various and un-
knowne.

Supposed by some to happen through
a propriety of their place of birth.

An example seconding that opi-
nion.

The opinion of Astrologers, why men
are borne Deafe and Dumbe.

That the sin of the Parents is some-
times thus punished in their children.

An example of Gods justice in a Boy
borne Deafe and Dumbe.

That Deafenesse is sometimes ex
Traduce,

Traduce, and an hereditary evill.

Why Deafe men beget Deafe children.

Why the children of Deafe men are not alwayes Deafe.

Aristotles opinion that Dumbnesse is a privation, incident to man only.

That Deafenesse and Dumbnesse may happen to other creatures also.

The causes why many in a Family, prove oftentimes Deafe and Dumb, very darke and obscure.

Histories both Foreigne and Domestique of Deafenesse and Dumbnesse running in a bloud and many children of one man and woman proving so defective in their senses.

A very strange History of two twin Sisters borne Deafe and Dumb, having but two eyes betweene them: both living to old age.

Why those who are borne Deafe are consequently Dumb.

The chiefe use supposed by some

to be a sympathy betweene the Nerves
of Hearing and Speaking.

A twofold reason of their strict society and communion, according to Bitholinus.

The severall opinions of Physicians touching the causes of Naturall Deafnesse, and so consequently of Dumbnesse.

Both opinions of sympathy and privation of Hearing, urged by some to introduce a consequence of Dumbnesse upon Deafenes.

Varolus his Anatomicall inference of Naturall Deafnesse from Naturall Dumbnesse.

That to argue Deafnesse from Dumbnesse, is no good way of inference.

The chiefe signe to distinguish naturall Deafnesse from that which happens through a disease.

The only true and undoubted cause why they who are borne Deaf, are
con

sequently Dumbe.

That men originally Deafe, though they seeme to be Dumbe, yet most part of them are able to yeelde some sound or inarticulate voyce.

That Dumbe folkes, when they are angry, will make a very great gabbling noyse.

A reason of that extraordinary loud fury in them.

That the voyce which Deafe and Dumbe men utter, is very unapt in it self, to expresse the conceptions of their mindes unto others.

That Dumbe men not naturally Deafe, insomuch as the voice is naturall understand one another when they vent any passion of their mind therby.

In what cases originall Deafenes is incurable, and the reasons.

The sad and lamentable condition of these, who are borne Deafe and Dumbe.

The

The sadder condition of those who are Deafe and Blinde.

The yet more miserable condition of those who are Deafe, Dumbe, and Blinde.

A strange History out of Platerus, of an Abbot reduced to this wretched condition, in whom the sence of Touch did officiate for all the rest.

Another pregnant Example of the officious nature of the Touch, in supplying the defect and temporall incapacity of the other Senses.

Sennertus his well collected reasons of calling naturall Deafenesse, miserandum malum.

The incapacities of Deafe and Dumbe men according to the Civill Law.

The pittifull condition of those who are Deafe and Dumbe, and withall indocile Fooles and mad.

What

An Anatomical Reason, why they who become Deafe through any disease, doe not sympathetically grow Mute.

An Anatomical Reason, why they who become mute through sicknesse do not sympathetically thereupon grow Deafe.

That they who are stricken Deafe by a disease, prove sometimes accidentally Dumb.

Histories of some, who after they could speak, growing Deafe through a Disease, have lost the use of speech.

The Reason thereof:

Histories of many deprived of their hearing by sicknesse, who yet have retained their speech.

The Reason of their retention of speech.

An Aphorisme of Mercurialis explained touching Deafe mens (who are Deafe through some disease) not being by reason thereof, or in as much

as

as they are Deafe. Dumbe.

Histories of some stricken Dumbe by astonishment or indignation, who yet may be supposed not thereupon to have growne Deafe.

Aristotles opinion of sights conducing more to prudence and discipline, then hearing disliked by Mercurialis, because he had observed blinde men oftentimes, to be more prudent, then they who are Deafe.

Riverus his judgement why they who are Deafe from their nativity, have the instruments of their speech. Vitiated.

A reply to that.

Arculanus his doubt whether the number of Dumbe or Deafe men be greater.

Resolved upon the question, that there are more Dumbe from their nativity then Deafe, for, all that are borne Deafe, are Dumbe.

That there are, ex tempore, more
b Deafe

Deafe then Mute.

The Philosophicall reason thereof.

Whether men Mute from their nativity, may in progresse of time attaine unto speech.

An example verififying they may.

Lusitanus answer to Fontanus his question. An muti fiant loquaces: affording a Philosophicall reason of such strange events.

Histories on many borne Dumb, who by some extraordinary fright, and passion, have received the gift of speech.

Why they who are so cured, must be frighted as well as angered.

The Philosophicall reason of so strange an effect of a mixt passion.

The suffrage of the civill Law to Mute mens recovery of speech.

That they who have beene Mute from their nativity, if their eares have beene open, and the impediment was onely in their Tongue (that removed)

ved) they instantly fall to speaking as if they had learned it before.

This not onely inferred from Histories, but reason.

An example of a Boy of foure yeares old, thought to be Mute, who by a naturall crisis recovered, and on a sudden began to speake, as other Boys of that age and so proceeded to a greater perfection of speech.

That it is an ancient conceit settled in all mens mindes, that no effectually reliefe can be given to men originally Deafe and Dumbe, but by the divine Art of miracle-working Faith.

Histories of many Deafe, and Dumbe men miraculously cured.

A very strange example of a Boy Deafe and Dumbe, cured by a mischiefe, or a chance-medley miracle.

Reasons why Deafe men speake through the Nose.

Why smelling is often lost upon Deatensile.

*Another reason thence taken of Deafe
mens speaking through the Nose.*

*That men Deafe, or blinde, or
otherwise defective in their senses,
are apt to use expressions as if they
heard or saw.*

*What that property in them may
seeme to imply.*

*Painting and limbing commended,
as usefull, and matter of contentation
to Deafe and Dumbe men.*

*Histories of two Deafe and Dumb
men eminent in that Art.*

*That writing to the Deafe and
Dumbe may serve in stead of speech.*

*That from writing first learned by
Deafe and Dumbe men, there lies a
way (if well followed) to the attai-
ning unto speech, or an Articulate
voyce.*

*A strange example of a man borne
Deafe and Dumbe, who feeleth
sounds.*

How this Deafe and Dumbe Lord,

who

who was taught to see words, had those words so seene or heard, transferred to pronuntiatio & again to his Intellect.

A Reason why they who are Deafe by nature, are necessarily Mute.

How the Deafe and Dumbe Spanissh Lords understanding, might be framed out of wordes seene or heard with his eye.

That it is a stranger thing in nature, if considered, how children learne to imitate speech, who as is thought, take no marke at all of the motions of the mouth of him that speaketh; then that this Deafe and Dumbe Lord, by observing the motions men made, should be taught to understand others, and to speake himselfe that others might understand Him.

How both these may be done.

That Deafe and Dumbe men have their other Senses more sharpe to supply the want of this.

That they are heerby endowed with

an ability and sagacity to heare or see
with their eye, beyond any other men
that have their hearing

That they who want their hearing,
see more exactly.

A Reason thereof.

That Deafe and Dumbe men ha-
ving a double defect, to wit of hearing
and speaking both, have usually a dou-
ble recompence.

That it is not so difficult to Deafe
men as unto us to conceive and distin-
guish of each motion and signification
of the Lips.

That the subtleties of articular mo-
tions are with more attention (and de-
lights) contemplated by Deafe men.

That the apparent motions of the
Lips, the Formes of Naturall Letters,
and so consequently of wordes, seeme
to have bene distinguished by the ob-
servation of Deafe and Dumbe
Folkes, who seeme to have attained
unto this knowledge, by their owne at-
tentive

tentive observation.

That the Civill Law witnesseth,
how some Deafe and Dumbe men,
have come to perceive the efficacy of
others wordes, by the moving of their
lips. That Deafe and Dumbe Folkes
are apt to be angry, if you make signes
onely unto them, without using also the
motion of your lips.

The supposed Reason thereof.

The admirable properties of some
men accidentally Deafe, who speake
and perfectly understand what any
man sayes, by the moving of his Lips.

That it was never seene that any
Deafe and Dumbe man, by his owne
observation (though he might under-
stand what others sayd) attained to
speech without a Teacher.

That this Spanish Lord was the
first Deafe and Dumbe man that was
taught to heare the sounds of words
with the eyes, and thence learnt to
speake with his Tongue.

The Reason why this Deafe
and Dumbe Lord, by Art
made to speake, became thereby a
generall Linguist.

That this Deafe and Dumbe Lord,
now taught to heare with his eye,
could at the distance of a large Cham
bers breadth say wordes after one that
another standing close by the speaker,
could not heare a syllable of.

Reasons thereof.

That it is likely he could sooner
perceive the motion of wordes at a
distance, then another could heare
their audible sound neere hand.

That a Deafe and Dumbe man
taught to heare the sound of words
with his eyes, because he heareth not
himselſe (although this way he doth o
thers will not be able well to mode
rate the Tone of his voice.

A way ſuppoſed to remedy this only
defect appearing in this Art.

How this Deafe Lord might come

to discern in another whether he speake shrill or low.

That if speech were naturall to man, there is no reason but men borne Deafe and Dumbe, (their tongues being commonly free,) might come out with it without hearing or teaching.

That the most unanswerable argument against the Naturality of any Language is, that they who are naturally Deafe. speake not at all.

Montaigne his vaine endeavour to evade the former argument, by imputing Deafe mens continuing Dumbe, not onely to their incapacity of speaking, by reason of their naturall Deafenesse; but also to the Sympatheticall League betweene the nerves of hearing and speaking.

That Dumbe Nurses make Mute Children.

The Age wherein judgement may be given whether a Childe is like to prove Dumbe.

That

*That words may be tasted by Deafe
and Dumbe men.*

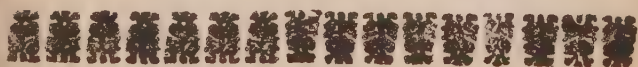
*A Hint of a practickall Demonstra-
tion of conveying articulate and in-
telligible sounds another way to the
Brain of Deafe and Dumb men, then
by the Eare or Eye.*

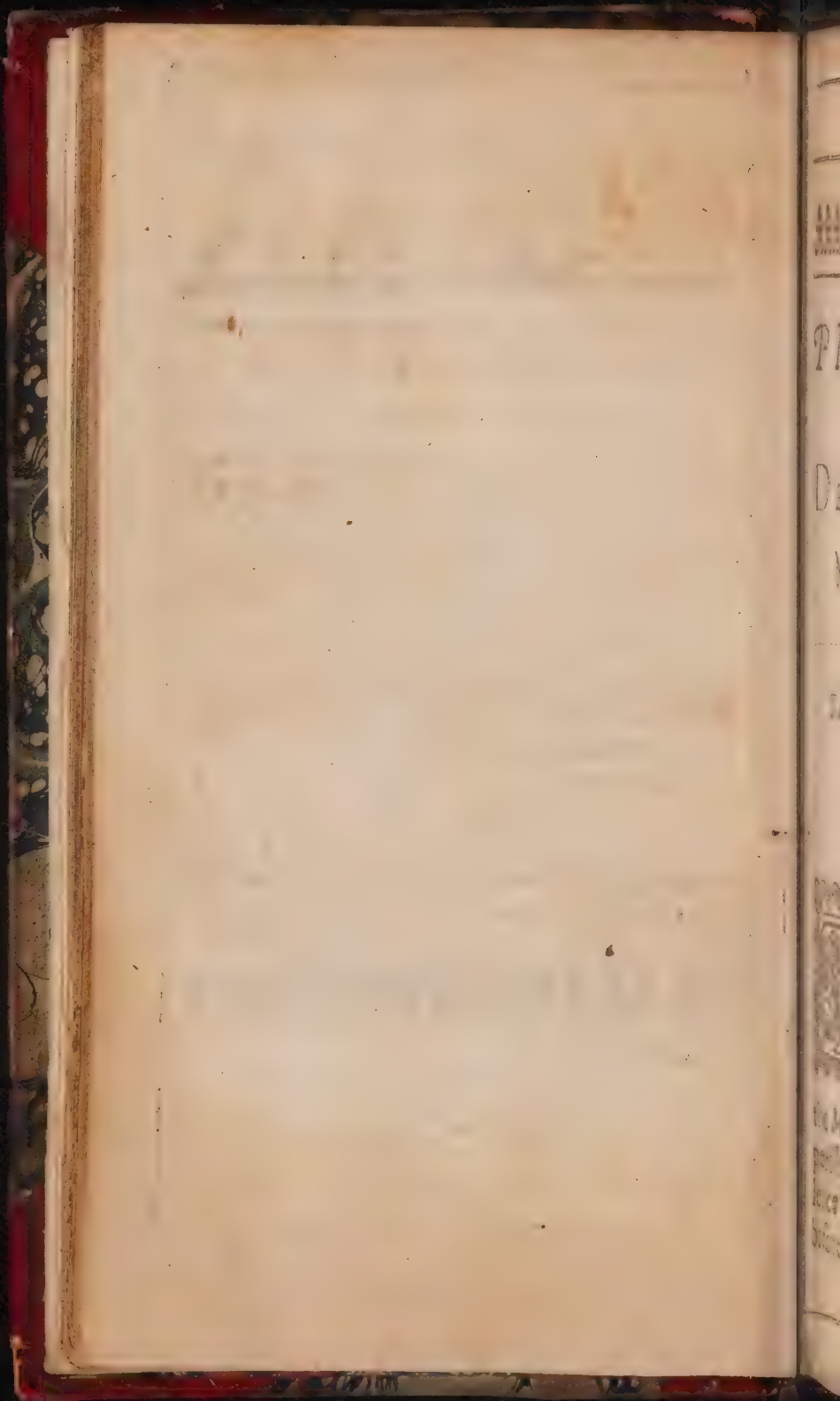
Errata.



Errata.

Page 3. l. 10. reade $\chi\acute{\epsilon}\sigma\iota\nu$. fol. 9. l. 10. change
fol. 11. l. 22. doe, fol. 15. l. 3. affirms, l. 8.
having fol. 16. l. 19. Verulamian, fol. 31. l. 12.
 $\Delta\iota\alpha\lambda\epsilon\kappa\tau\omicron$, fol. 53. l. 19. was, fol. 73. l. 18.
there, fol. 77. l. 25. parents is thus, fol. 91. l. 1.
menynx, fol. 92. l. 2. with the, fol. 119. l. 22.
Seiberg, fol. 122. l. 1. utter a voyce, fol. 123.
l. 22. quia, fol. 124. l. 13. be ill, fol. 128. l. 18.
there, fol. 138. l. 1. example in one, fol. 140.
l. 13. stayed and, fol. 142. l. 15. Chronicle,
l. 16. Urspergensian, fol. 145. l. 4. repay, l. 6.
his, l. 7. remaining, fol. 151. l. 26. in an,
fol. 154. l. 1. shutting, fol. 157. l. 11. are,
fol. 165. l. 9. hence they, fol. 171. l. 10. her,
fol. 177. l. 19. who.







PHILOCOPHUS:
OR THE
DEAFE and DUMBE
MAN'S FRIEND.

*That the Mouth is the Adequate
Organ of Speech.*

CHAP. I.



That the Universall Regi-
on of the Mouth is the
Adequate Organ of
Speech, appeares even to
our very Sences : Since
no man speaketh but by
the Mouth, and that obstructed, Speech
perisheth, and is put to a necessary si-
lence : For we must open our Mouth
before we can speake; the Door or Win-
B dow

dow of Utterance must be open'd first: you must turne the *Cock* of the Conduit, or pluck out the *Stople*, before the *Water* can gush out. This being the *place of birth*, to which all our conceptions are brought, and at which the labouring Mind is delivered of all her thoughts, which issue, we call *Orall-Reason*. This Great *Hippocrates* was not ignorant of, where among the *seven Figures* whereby *Sense* happens unto man, he reckons the *Mouth* for the *Figure of Speech*; as deserving to be accounted the Organ of another Sense: Now since the *Mouth* is the *Adequate Organ of Speech*, it is worth the enquiry what other *Instruments* concur to that *Action*. The *Universall Region of the Mouth* is constituted of the *lawes*, the *Tongue*, the *Pallate*, the *Teeth*, and *Lips*; but *Speech* is not formed unless by the naturall Instruments, comprehended in these Verses.

(*Palatum,*
Instrumenta novem sunt Gutter, Lingua,
Quatuor et Dentes, et duo Labra simul.

Among these, the *Tongue* is the *Prin-*
cipall

cipall Organ to whom the *Action* is committed: which yet is not so to be accounted the *chiefest cause of Speech*, as if all Speech did flow from thence, and that the other parts of the *Mouth* were onely usefull Assistants unto it: But the *Lips* beare a great stroak in the *Action*, they being the most extant and remarkable Organs of *Orall Utterance*. Hence with the *Greeks* called *χίλια ἀπὸ τῶ χέρον λόγον*, quod *Sermonem fundunt*: and *Labia*; in the *Allegoricall Philosophie* of Interpretation of *Dreames*, signify *Words*; because they are pronounced with the *Lips*. So that although the *Tongue* be the *Principall Interpreter* of the *Mind*, yet that alone is not sufficient to frame our *Speech*, but that it wants the assistance and cooperation of the *Jawes*, the *Pallate*, the *Teeth*, the *Nostrils*, and the *Lips*, Sense it selfe doth teach, and the *Authority* of the *Hebrew Gramarians*, who for this cause, that the *Tongue* doth dash the aire formed into a voyce, now against this part, now against that, have distinguished their *Letters* into *Labiall*, *Gutturall*, and *Dentall*. Hence it is, that when the *Tongue* is disappointed of

the commodious and necessary aide of the adjacent parts, whereby it comes to passe that certaine Letters which are wont to be framed by the ministrie of these Members, are very hardly or worse pronounced; Chyrurgions by a bold Art, raised from subtile observations made upon the naturall use of every implement of Speech, take upon them to repaire such defects, and to piece and patch up the broken and decayed Harpe of Speech.

But in Man these *Organs of Speech* are longer before they are perfect for *Adi-
on*, because of the excellent variety and differences of Letters; whereas other creatures can expresse few or no Letters; and that which is various and distinguished with many differences, that is longer in perfecting. The voice indeed is but one, but there are many kindes of speaking. And verily children at first, no otherwise then Brutes, doe expresse their *Appetitions*, being not able to pronounce Letters. An Infant being called *Infans*; *quasi non fans*; because he speakes not, for an Infant is borne Dumb. So that it is miraculous that

that *Hali Abben Ragel* reports, to wit that he saw an Infant who beganne to speake when he was scarce 24. houres old, since he was borne unhappily to foretell the losse of the Kingdome, and the destruction and desolation of that Nation.

Vandale the Wife of *Duke Baruch*, having conceived by him, after she had been pregnant two years, brought forth an Infant that presently did goe and speake.

Anno 633. *Nanthildis* the wife of King *Dagobert* the second, brought him a son which was named *Sigibertus*; this Infant being forty dayes old, when hee was to be Christened by St. *Amandus* the Bishop, when they all were silent, he answered with a cleare voice, *Amen.*

Anno 1104, a woman that had gonne with child two yeares, brought forth a Man-child speaking.

Anno 1275, in *Cracovia* a certaine Infant scarce halfe a yeare old, beganne distinctly and readily to speake, and say to the great admiration of all; The *Tartars* shall come and cut off our Heads:

and when he was asked whither he was not afraid himselfe of the *Tartars*, he answered, yea, in good sooth I am in great dread of them, because they shall take away my head also: which came to passe 12 years after.

Another certaine Infant having all its Teeth was borne, and in the first day of its birth beganne distinctly and readily to speake, untill it was Baptized, afterwards it lost its Teeth and Speech.

Yet they that write of the *Indians*; report, that the children of the *Guineans* do generally both goe and speake when they are but a year old.

Cardan reckoning up many things whose meere rariety causeth admiration, for that they happen but seldome, saith, That it is naturall for an Infant (although he be new borne) to speake; and yet it is held for a very great wonder, as a thing comming against nature, because it is rare.

But after what manner it is naturall, *Aristotle* teacheth us, for since Speech consists of the strength of the Tongue and Intelligence, and Intelligence comes to the
most

most before the *Strength of the Tongue*, it comes to passe that it seems a wonder for any to *Speak* before their *Understanding* is absolute: And yet if the *Strength of the Tongue* may bee first compleate, since man is prepared by nature to speake, what should hinder him but that he should, as Pyes, and Parrots, rehearse things heard though not understood? Or that hee should not with some endeavour and concourse of Spirits to his Tongue, pronounce things hee understands? That which shewes this to be so is, that this cheifly happens, and more clearely, to them when they awake from sleep: For then things seen and heard by sleep, move more, and there is present more plenty of spirits, and the Tongue by so long rest becomes stronger.

*Of the use and necessity of such a structure
of instruments for Speech.*

C H A P. II.

Speech being the Worke of Reason performed by certain instruments, man received a power of forming certain sounds, and apt Instruments for the production of Speech: for unlesse there had been some kinde of meanes or way found out, that he might as it were lay open the motions of his minde, it had been debarr'd the freedom of communication. Therefore there was need of an artificiall structure of Instruments, whereby the *minde* as a *quil* striking upon the parts appointed for the forming of the voyce, by sounds expressest after a certain manner, should set forth and lay abroad to the view, it selfe expounded by external motions. And as a *Musician* that is destitute of a Voyce, uses *Ascriptions Voyces* of a Pipe or Harpe; so the *minde* of man the Searcher out of divers rules and fashions, seeing she could not open the purposes of her thoughts in
the

the heart, or phanſie, which perceives things by externall Senses, as an industrious *Artifex* ſhe beates upon the *animal Organ*, and by ſounds produced by them, *communicates* and *makes manifest* her *bidden cogitations*. In which Instrument of ſpeech, there is a mixt kinde of Muſique of a Pipe and a Lute, no otherwiſe than if theſe two instruments ſhould ſound together in a mutual concert. The *Breath* paſſing through the Artery, imitates the ſound of a Pipe, the *Palate* and the two *Pipes* that belong to the *Noſtrils*, the *Cheekes*, the *Tongue*, and the *ſtructure* of the *Jawes*, about which the *chin* unfolded in a concave forme, at length ends in a ſharpe point, all theſe variously and manifoldly repreſent the *plectrum*, and the *Lute*, and with great variety changed the *tones* of the *Voyce*, as the matter requires. And laſt of all we uſe the *diduction* and again the *compression* of the *lips*, as Muſicians who by the *Stops* of their *Fingers* moderate the *Breath* in Pipes, and the harmony of the *Song*: and therefore in the mythologie of the ancient *Ethaickes*, *Mnemoſyne* who is ſaid to be the Mo-

ther of the Nine Muses, whom she bore to *Jupiter*, with their brother *Apollo*, import nothing else but the ten Modulations of Mans Voyce: therefore in *Apollons* Harpe represented with ten strings; so in the Scripture we reade of the Dedacord or Psaltery: others allegorize it to be the four fore-teeth, against which the Tongue striketh, the two Lips which are the Cymbals or Instruments to fashion the words; the the Tongue, and the string of the Tongue: the Palate whose concavity begets a sound; the Wind-pipe which is the passage of the Breath; and the Lungs which like a pair of Bellowes give and take back the Ayre or Spirit.

Of the conveniencie and excellent scituation of the Mouth for the more visible appearance and manifestation of Speech.

CHAP. III.

Speech being the end of the Voyce, it was proper and requisite, that the Organ of Speech the Mouth (which containeth

taineth in the amplitude of its cavities, all that Region which lyeth from the *Larynx*, the Organ of the voice, to the border of the Lips) should bee placed after the Organ of the voice, as nearer to the advantages of Utterance; that as the Articulation of the Bones hath an evident motion: So Speech which is a Metaphoricall Articulation, that is an affection hapening to the Voice, might be performed by a most evident motion. Therefore the Tongue ariseth neere the supream part of the *Larynx*, and being interwoven with all kind of *Fibres*, it is easily and swiftly moved any way, wherefore according as by inhearing to the *Palate* or the *Teeth*, it opposeth it selfe divers wayes to the Voice, proceeding out of the *Larynx*, divers Articulations arise according to our Arbitriment, signifying the conceptions of our Minds; to which operation the Lips does very much conduce, which are moveable after all manner of wayes, which that they might easily oppose the voice, and most suddenly either precede, accompany, or follow the motions of the Tongue, were to be placed as nigh the Throat as possi-

ble

ble might be. Hence it is, that in favour of *Speech* and *Dearticulating* the voyce, among all Animals, Man onely hath his *Face* least prominent, and his *Lips* least distant from his *Throat*. His *Mouth* being commodiously placed in the *Confine* and *passage* of three great Venters, the *Head*, the *Thorax* and *Abdomen*, which powre out their force into it, making it their *Generall vent* and *breathing-hole*: For since it was to bee the Organ of *Speech* and *Singing*, it was to be fitted to the *Larynx* and the *Arterie* both, and to the *Head*; for being necessarily to bee moved in *Speech*, it behoved it should expect the force of moving from the *Head*, from whence it flows into all the parts. And since *sound* is not but from the breath, whose conceptacle the *Arterie* is, it ought to draw it from thence; for things that are *nigh*, doe more commodiously receive force by influence than they that are a *far off*. Adde unto this, that the *conceptions* and *notions* of the *Mind*, which the *Mouth* brings forth, signified by sound and the voyce descend from the *Head*, from whence it was better to receive them without a
Medium

medium, for since they are *intentional* they would easily vanish. And the *scitnation* of the *Mouth*, in the forepart and middle of the *Face*, in that portion thereof which the Ancients called the *Temple of Goodnesse and Honesty*, is most *conspicuous*, and none of the least *advantages* to the apparence of *Speech*: For, man was ordained to *converse* with man *Face to Face*: and therefore it is sayd, that God spake with *Moses*, as a man talketh with his Friend, *Face to Face*. And no man doth love to hold *Discourse* long, before a *Face* muffled or turned away; *Speech* being rendred thereby obscure, and lesse intelligible. And therefore *Adam* when hee required one to converse and discourse with, God when he intended to accommodate him with a Talking Mate, the genuine expression of the word is, *Faciam adiutorium quasi coram*, or *contra eum*. For since the countenances of those that conferre together are *mutually turned one towards another*, and Man was born to move with his *Face forwards*, it is apparent that the *Faces* of those that *talke together*, are as it were the *Face* of those that goe opposite

site and contrary wayes, and by consequence, they are opposite and contrary in the *same line*; such a helper was not found among al the creatures, and therefore it was ill with *Adam*. And indeed the Mouth lyes so convenient and oportune for *observation*, and *discerning the locall motions of words*, and for *inspection* and *exposition of mens minds* thereby, that the *Hebrews*, to the honour of the *Visibility of Speech*, most constantly attribute *Speech* to the *Lips*; the Scriptures abounding in such kind of expressions. 'Tis true, this *sounding visible image of the mind*, is not the *Original*, but a *Copie* only of the Mind, for the *faculty* or power of *Speech* consisteth of two *Actions*, the one *outward*, the other *inward*: the *inward Action* of *Locution* which ever preceedes the *outer Speech*, is *invisible*: but the *outward*, which is the giving of various sounds to our breath, as it passeth through our Mouth, by divers *conjunctions* of our Tongue and Lips to themselves, or to divers parts of the Mouth, or by their separations from them, is so *evident and apparent*, that the consideration of these
pre-

premises makes me reflect upon a place of *Plinie*, (but by way of reverse) for wheras he affirms that a great part of the Countenance consisteth in the Voice, this with as good reason sheweth, that *a great part of the Voice, even when it is articulated into speech is in the Face* for Countenance no vocall or articulate expression havning any production of signification, without some *manifest and proper motion or alteration of the Countenance*: No marvell then that it alwaies proves such a notable *Interpretour* to the *litteral meaning* of our words. And therore the conceite of that Gentleman seems to me very ingenious, and worth more scanning than this place will afford ; who coming to the *Spetle* to heare one of those Sermons which are usually Preached there upon *Easter Holy-dayes* ; when he could not by reason of the greatnesse of the Congregation come neere the Pulpit to heare, nor well discern the Face of the Preacher ; remembering he had a *Prospective-glasse* in his pocket, tooke it out, and levell'd it at the Preachers Face, by which instrument having drawn the Preacher to appeare nearer unto him, he not only
saw

saw, but heard him very well. Indeed that Word which sounds outwardly, is but the *signe* of that which *appeareth* inwardly, and to that rather doth the name of the Word appertaine: For, that which is *framed and delivered by the Mouth*, is but *Vox Verbi*, and is so called in respect of the other, from which it hath the *Derivation and Apparence*, and there may be a Word (a *Mental one*) without *pronunciation*, but there cannot bee *pronunciation* or any Vocall representation of the Mind by any utterance of Discourse, without a Word.

That Speech is a voluntary Action, and therefore perform'd by Motion.

CHAP. IV.

WE know nothing (saith the *Verulanian Oracle*) that can at pleasure make a Muslicall or Immuslicall sound by *voluntary motion*, but the Voice of Man and Birds. By Speech which is an immuslicall Sound, framed by

by the Motion of the Tongue and Lips, Man hath a prerogative of expressing his Mind : To Speake being nothing else, but by certaine Motiuncles of the Mouth to open our Cogitations to others in Words proceeding from the Conjugations of Letters, whereof our Speech consists. Letters the true Elements of Speech being made of Motions, nay being nothing else but locall motions of the parts of the Mouth, it being in vain for any man, opening his Mouth, and uttering out his breath, to strive to speake without moveing his Lips and Tongue : For, the other instruments of Speech although they concur with the Moveable parts, yet because not moved, are not reckoned among the cheife Causes and Authors of Speech ; since the very Tongue and Lips, which were made very Moveable and Voluble to this end, are not accounted the cheife instruments of Speech, and first causes of Articulation, but *quatenus they are moved*. And they are Moveable in as much as they have obtained a Faculty of Moving, and are Muscles, which are the *Adequate Organs*

gans of voluntary, Motion. For Speech is a voluntary Action and free, and may be made or restrained according to our arbitrimt, and wee at pleasure can either speake or hold our peace : And therefore it is performed by Muscles, which are Arbitrary Organs. Hence the Tongue and Lips performe Speech, and conforme Letters by locall Motion, as is *most evident to Sense*, and confirmed by Reason, for being a *voluntary Action*, it is therefore perform'd by *Motion*, as other *voluntary Actions* of the Tongue are. Indeed the Tongue as it is the sensory of Taste, doth not necessarily require moving, for the alteration and dignotion of Savors, is accomplished without moving ; but other offices of the Tongue as voluntary, are altogether performed by moving, most Eminently among the rest that of *Speech* : So that *Motion* alone is able to give account of all the *voluntary Expressions* of *Speech*.

That

That Words are nothing else but Motion.

C H A P. V.

W*Hat are words but motion: saith the truly noble & learned Digby? w^{ch} confirming interrogation may seem strange to those who are not well acquainted with the mysterious Essence of words, and yet to those that shall scan it well, it will appear manifest, that Words (as hath been said) are nothing else but locall motions of the parts of the mouth, and that they have no existence without motion, nor can subsist beyond it, their sound perishing and expiring as soon as the motion determines; for otherwise it would fall out as in some suddain Ecchoes, that one word would chop upon another, and so drown each other in the very act of delivery, which would tend to the confusion and utter annihilation of Speech. So they who would distinguish betwixt Words and Motion, and reduce them to severall predicaments, must labour at four Workes: first to produce Words without*

out any *local motion* of the mouth. 2ly, to accomplish the literal or *articulate motions of the mouth*, without any *audible or visible articulation*. Thirdly, to keep Words from vanishing away with the Motion, or perishing upon the determining of the Motion of the Mouth. And fourthly, to preserve the Motion a foot after the creation of Words. And so they may make a Distinction, otherwise Words and Motion, as having one common life and existence, will live and die together. He that shall attempt this, will have as hard a taske as *Esdras* had, when the Angel bid him shew unto him the image of a Voyce, and would be forced to answer with him, Who can do this thing but he who hath not his dwelling with men? Some zealous Patriots of the *Aristotelian* Philosophy, seem very unwilling to admit Words to be Motion; and therefore had rather say, that Words are not Motion, but by Motion of the Tongue Words are uttered, believing that we move our Tongues many times when we speak not. But if Words were Motion, we must still speak when we

we move our Tongue. But I suppose a fair distinction, implying the *species* of Motion may induce much to a reconciliation, to which end we say, that Motion agrees with the Tongue generically, and the Motions of Speech specifically. For as concerning the Offices the Tongue performs by Motion, Motion may be spoken of the Tongue in divers respects, as *Commanducation*, *Deglution*, &c. and as here of *articulate speech* or *wording motion*. He that should in-
upon him, that holds *Words to be nothing else but Motion*, that the Tongue must necessarily *talke* as often as it *walkes*, may as well say, *Walking is Motion*. But the *Foot* is the Organ of *progressive Motion*; Ergo, A man cannot *move his foot*, but he must *walke*. This were not to argue like a *Peripatetique*. And it may be if *Aristotle* himselfe, whose *Di-ctates* are worthy of all honour, had lived to see the progresse and advancement of Learning, in the miraculous effect of this Art, he might have been induced (at least by way of Probleme) to aske this Question, *Why Words seem to be a species of Motion?*

*Of the excellent choice of Nature in the
Appulsive Motions of Speech.*

C H A P. VI.

IT is no wonder that Nature destined the *Mouth* for the place and Organ of *Speech*, wherein (if any where) various and manifold Appulsions are made, wherein the Tongue and Lips being *moveable*, may be *appelled* and concur together: yet the Motions of the Tongue and Lips which conduce to *Speech* and the *production* of *Letters*, although they are manifold and various they that are most agreeable for forming of Letters, are chiefly *upward* Motions, for it behoved these Instruments to follow the nature of the *Ayre* (which is a most light body) whereby it raiseth it selfe *upwards*. All *Appulse* being done *straight upward*: for, all *Appulsions* are not profitable to *Speech*, and to forming of Letters, since other Offices also of the Tongue, to wit, *commanducation* and *deglation* are performed by the *Appulsion* of the bodies of the Tongue, Lips, and Teeth ;
but

but with this difference, that the *Appulsions* which conduce to *Speech*, are more *facile* and *expeditious*, and are done with farre lesse endeavour and strength. For whereas the tongue is *appell'd* to the Palate, Teeth, and Lips, the Teeth to the Teeth, to the Lips and Tongue; and besides Lip to Lip and to the Teeth and Tongue. Certainly those Appulsions of the Tongue onely are profitable to *Speech*, which are made to the Palate and Teeth: and again, of the Lip to Lip and to Teeth, whereas other Appulsions conduce to other Offices of the Mouth: therefore there are two *efficient* parts of Appulse, the *lower* Lip and the Tongue; the *suscipient* or *sustaining* parts are either the *upper* Lip, or the *upper* Teeth, if the Lip do *appell*, but if the Tongue do *appell*, they are the Palate and the Teeth. The *Quere* therefore is, Why since Appulsions are made from other parts of the Mouth, yet those two proposed should be onely profitable to *Speech*? And it is answered, that those Appulsions were admitted which were both *facile*, *swift*, and *elegant*; and on the contrary, those re-
jected,

jected, which were either *unapt* to forming of Letters, or which were more *difficultly* or *slowly* effected or disfigured and deformed the Mouth. Nature having had great regard to provide for the *comelineffe* and *decency* of *pronunciation*: therefore Nature avoided the *Appulsion* of the Tongue to the Lips, as that which came more *fowly*, *difficultly*, and *slowly* to the forming of Letters; for if the Tongue should appell to the *lower* Lip, that Appulse would prove unprofitable, for it would vibrate to no apt Letter; but if to the *upper* Lip, it would onely make *L, N, T, D.* but ill-favouredly and difficultly, which perchance Nature left to old men that were *Edentuli*; whereas the same Letters notwithstanding are neatly, distinctly, easily and speedily compressed by the *Appulse* of the Tongue to the Palate. Besides the *Appulse* of the Tongue to the Lips could not be done unlesse the Tongue were made longer, whereupon afterwards it would not perchance be congruous for the *Appulse* to the Palate for the forming of other Letters. In like manner, Nature avoided the *Appulse*

pulse of Teeth to Teeth as that which can produce no consonant by reason of a too fierce and cruell illision of the ayer, which should be pleasing soft and gentle, it being worth our labour to be so faire spoken. Whence *Galen* said, there ought to be a proportion and conveniencie between the *percussient Body* and *percussed*: therefore from the most hard *Teeth* there is made too fierce a percussion to the ayer, and for this cause, although to the uttering of the voyce, hard bodies ought to concur: yet to *articulate* the same, that is to the production of any letters, either both, or one at least, of the concurrent bodies must be soft, whereby the ayre may be pleasingly intercepted and expressed, from whence it is collected, that nature in the producing of Letters, hath most especially substituted those *appulsions* which have *elegancy*; *facility*, and *expedition* adjoyned unto them, such as are the *appulsion* of *Lip* to *Lip*, and to the *Teeth*; and of the *Tongue* to the *Palate*, and the *Teeth*. And verily so farre are the *Motions* requisite to *Speech*, from introducing any
C deformity

deformity into the Face, that they are observed many times to improve the *Countenance*. Wherefore the Bridegroom in the Canticles to his Spouse. *Sicut vitta coccinea labia tua*, Thy Lips are like a thread of Scarlet, and thy talke is comely. And it is a piece of the character of our *Henry the seventh*, that his *Countenance*, to the disadvantage of the Painter, was best when he spake. But above other considerations it appeares, that Nature in the contrivance of *Speech*, affected *expedition*, which is dispatched by most *swift*, and *expedite Motions*: for if *Speech* be made by *Motion*, and signifie the affections of the mind, which are *Motions*: without doubt, the *moving* of the *instruments* must answer to the *movings* of the *minde*; now since there is nothing *swifter* than the *minde* which in a moment can passe unto the Heavens, and survey the whole earth; it is requisite and deservedly fit, that the *Motions* both of the *Lip* and *Tongue* should be most *swift*, as that which was to follow the *motions* of the *minde*. Therefore nature would have these *appulsions* and
motions

motions performed, not by the *Muscles* of the *Tongue* and *Lips*, but from their *Body* only, *quatenus* they are *Muscles*, whereby the *Motion* and *formation* of *Speech* might be most swiftly dispatcht; for, both the *Tongue* and the *Lip* hath *Muscles*, and are made *Muscles*; *quatenus* they have *Muscles*, they are moved by another, and therefore more slowly: but *quatenus Muscles*, they are moved of *themselves*, and most swiftly and expeditiously rolled, agitated and appelled. And for this cause chiefly, were the *Tongue* and *Lips* made *Muscles*, that they might strike on and affect the ayre, which is indeed a most light *Body*, and in the meane while most suddenly follow the most swift *Motions* of the mind. It sufficiently therefore appeares, the *moving* whereby the *Tongue* and *Lips* are moved to performance of *Speech* proceeds not from any other, but from their *proper Bodies*, the *Motion* arising thence being sufficient for such an employment; for when as Nature with that which in *moving* required no great *strength*, requires also the *celerity* of

motion, she makes the parts to be moved of themselves, mingling throughout the *motory power* with the *part to be moved*, as in the *Lips* and *Tongue*, which since they were not to agitate bones or Meates, but most light ayre, and to afford quick and *speedy motions* in speaking, by good reason we judge Speech to be accomplished without the ministry of Muscles, by the *Body* onely of the *Tongue* and *Lips*; for if in speaking, the *Tongue* should be moved by Muscles, as in *Commanducation*, both its *motion* and *Speech* would have fallen out to be farre slower: but it was fit that Speech should be most speedy and expedite, that the soule might on a suddain signifie its conception of pleasure or distaste, to the Conservation of the *Body*.

That

*That the Motions of those parts which
Create words, excell the signifying fa-
culty of any other member.*

CHAP. VII.

TO *speake*, is nothing else but by
certaine *motiuncles* of the *Tongue*
and *Lips*, to intimate and signifie cer-
taine things, as it is agreed between
those that speak together, that is to say,
as some are wont reciprocally to open
their cogitations by divers motitations
of their fingers. This only being the
difference between them, that the
Tongue and *Lips* are the most accomo-
dated of all the parts of our Body, to
signifie what is conceived in the mind.
The *Tongue* by reason of its wonderfull
mobility, and because it is placed in the
very passage or high-way of the *Breath*,
by its *diverberation* produceth manifold
sounds, which occurre to the hearing
of man a farre off, therefore this par-
ticle is most ready, best provided and
most fit and convenient, to which men
should commit the office of *Communi-*

cating what they have conceived in their mind ; because no other part can undergoe so many and so various motiuncles, and by the assistance of the Lips and the other instruments of Speech, frame so manifold voyces : neither came it to passe by chance, that the *Tongue* sprung up to be apparently accommodated for this use, but it was so provided and ordained by Nature ; for, a *soft and voluble substance*, endued with many *Muscles* at its root, placed upon the Larynx, planted beneath the *Palate*, encompassed with the *Teeth*, and *Lips*, that receiving the Ayre expired by the Larynx, and driving it many wayes against the *Palate*, and *Teeth*, it might produce manifold *sounds*, by which according to his arbitrement, man might signifie to man his otherwise incognoscible cogitations. Therefore the *Tongue* and *Lips* are thought to be farre more accommodated to intimate our thoughts, than either the *Hand* or *Foot*, or any other particle, because of the peculiar advantages of their expressions, which according to the Doctrine of this Art are most visibly audible. *That*

That Speech is an Articulate Voyce formed by the Conjugation of certaine Letters.

CH A P. VIII.

THe Tongue (which yet as the great Advancer of Learning saith) is no very fine instrument , in point of Articulation , maketh no fewer motions , than there be Letters in all the words we utter. Hence *Speech* which the Latines expresse by the words *Locutio, sermo, oratio, or Loquela*, and the Greeks by *Διαλογος* , as if you should say *Colloquium* , may be defin'd an *Articulation of the voyce* by (the efficient Cause or instrument) the *Mouth*: in which Definition the *voyce* is the *Genus* ; for, the *voyce* is the *matter* of *Speech* , there being no way without the *voyce*, for any man to *speak* out; and the *Difference* which informes the *voyce* with *Speech* , is *Articulation*. For, the *voyce* inform'd with *Articles*, is an *Articulate voyce* , which is called *Speech*. As for the *voyce*, that is conformed in the *Larynx* by the *Cleft* , and as

soone as it is produced, it offers, Subjects, and fits it selfe, as it were the matter of *Speech*: But the *Articles* which come upon the *voyce*, and *informe speech*, deserve a more diligent consideration, for, this *affection*, happening to the *voyce*, is a certaine *interception*, *division*, *Distinction*, or *intercision* of the *voyce*, which being of its owne nature *fuse*, *continued* and *indistinct*, upon the *Articles* accession, the *continuation* of the *voyce* is *intercepted* and *taken away*. As when we *loosly*, *indistinctly* and *continually* forme the *voyce* thus: o o o. if we to it adjoyne the *article* c, n, or t, now it will be co, no, to; that is to say, we constitute there by a *divided* and *intercepted voyce*. Which thing a very *Pipe* distinguished with *stops* doth most fully declare, which without the *motion* of the *Fingers*, sends forth onely a *voyce*, but with the *motion* of the *Fingers* and the *interchangeable apertion* or *occlusion* of the *stops*, it brings forth an *intercepted* and *articulate voyce*, and after a manner *speech*: And although *speech* is proper to man, as proceeding from his *Enunciative*

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Faculty, notwithstanding other Animals doe speake among themselves, And a *Pipe* or *Harpe* utter after a manner an *Articulate voyce*. Therefore a voyce not loosely spent, nor continued; but intercepted, distinct, and intercepted, is Speech, or an *Articulate voyce*; called therefore *διὰρθρως* by *Aristotle*, to wit *Dearticulation*, Metaphorically as *Fabricius* thinkes, a Denomination taken from the *Articles* or joynts of the Bones, for as *διὰρθρως* according to *Galen*, is an *Articulation* or *Composition* of Bones, which hath an evident motion. So Speech is performed by evident motion. Besides, as joynts are certaine knots which seeme after a certaine manner to intercept the continuation of the Bones: so Speech also, which is an *Articulate* or *joynted voyce*, seemes to be intercepted into many parts, not spread out in one loose tract nor continued. And as by the joynts the separated Bones are conjoyn'd, that they proceed in a kind of continued series: So an *Articulate voyce*, although it be manifoldly divided, yet it flowes out so continued, that it may seem to be joyned and cou-

pled together, or perchance we may say, *Speech* is called an *articulate voyce*, as much as if we should say, *distinct* and *manifest*: metaphorically also, by a denomination taken from *Articles* added to *Nounes*, which not only the *Grecians*; but the *Italians* and *French* also, and many other adjoyn unto their *Nounes*, that, as *Articles* added to *Nounes* signifie a *distinct* and certain thing: so the *voice* which of its own nature is *defuse*, *continued* and *indistinct*, as being dead without *Letters*; when it appears to passe into *Speech*, is made *distinct* and *manifest*, and it advanceth into *speech*, if it be imformed by *Articles*: so that although man had *instruments* requisite for the expulsion and collision of the voyce, and breath and ayre as the matter for the production thereof, that it might resound as an adequate object of hearing; yet he had not had the disciplinative and informing power of *Discourse*, unless those *Voyces* were so *articulated*, that they might signifie and represent the conceptions of the minde: for, the *Auditors* by reason of the defect of *Articulation* would not be edified thereby.

That

That Letters, the true Elements of Speech, quatenus they are pronounced, are natural.

C H A P. I X.

THose Letters which we bring forth and are uttered in pronunciation, are natural; those which we write, artificial: for if Letters be made of Motions, or (rather indeed) are nothing else than the Motions of the *parts of the Mouth*, without doubt we affirme, that even as those Motions are natural; so the Letters consisting of those Motions, *quatenus* they are pronounced, are natural: which *Martianus Capella* the renowned Grammarian shewes: where he divides the Letters into *natural* and *effected*, calling those natural which we speak, but those, effected characters which we write. And for this reason it is, that Letters with all Nations in respect of their places or way of pronunciation are the same, and although the contrived images of the natural Letters or character may differ in their representation,

sentations, yet *quatenus* they are pronounced, there is no diversity in speaking: but that afterwards so numerous and various Tongues ensued, the Letters are not the cause, but the composition of Letters, that is Syllables and Words. And it comes to passe also hence, that Letters are natural, as they are created by certain designed parts, neither can they by promiscuous parts, or by any mutual compact, be any otherwise formed: for, certain kinde of Letters are procreated from the Appulsion of *Lip* to *Lip*, certain also from the *Lip* to the *upper Teeth*, and certain also by the Tongue and Palate: neither is it to any purpose that one should attempt to pronounce F with both his Lips, or M with the Tongue and Palate, or N with the Lip and Teeth, although they endeavour it with the most exact diligence, and stretch and distort his Lips never so much, but he shall perpetually be inforced to make M, B, P. with his Lips: F and V consonant with his Lip and Teeth, and the other Consonants with his Tongue and Palate: but by what meanes this is done, especially
since

since the appulsion and moving is one; let them explain who shall have the happinesse to know the causes of so great things, it is enough for us with others to give a hint or imperfect report of this admirable contrivance of the Builder, and divine concent of parts.

That the Motions of Instruments of speech which go to the making the Alphabet of natural Letters, are worthy Enquiry.

C H A P. X.

AMong other things pertinent to the inquisition of sounds, the *motions of speech* are recommended unto us, by the great Advancer of Learning, where he saith, The *motions* of the *tongue, lips, throat, palate, &c.* which go to the making up of the severall Alphabetical Letters, are worthy enquiry. The *Hebrews* have been diligent in it, and have assigned which Letters are *labial*, which *dental*, which *guttural*, &c. As for the *Latines* and *Grecians*, they have

have distinguished between *semi-vowels* and *mutes*, and in *mutes* between *muta tenues*, *media*, and *aspirata*, not amisse, but yet not diligently enough : for, the special stroakes and motions that create those sounds, they have little enquired ; as that the Letters B, P, F, M. are not expressed but with the *contracting or shutting of the Mouth*. That the Letter N and B cannot be pronounced, but that the Letter N will turne into M. as *Hecatonba* will be *Hecatomba*. That M. and T. cannot be pronounced together, but P will come between, as *emptus* is pronounced *emptus* : so that if you enquire to the full you will finde, that to the making of the whole *Alphabet*, there will be fewer *simple motions* required than there are Letters. But because these were subtile and long to describe, he referres them over, and promiseth to place them among his experiments of speech : yet not having had the happiness to finde him so good as his word, having condoled the losse of such accurate Observations as his would have proved: upon his hint of encouragement we advanc'd after the scrutiny of these Alphabetical

betical motions; wherein things have so succeeded to our inquisition, that if we had intended a particular satisfaction, as we do onely a general intimation, we could produce such an Alphabet as should put an end to all Doubts in this matter, by exhibiting the motions of speech in the capital Characters or Letters of our Alphabet, which as notes and images, with the quality and quantity of their Lines, do very aptly serve the natural Letters, in whose pronunciation, the parts of the mouth obtain a various Figure, and every Figure consists of certain Lines: or in the representative motions or postures and Figure of the mouth, marshalled like the Alphabets of gesture in our *Chirologia*, expresse the very natural Letters themselves, most apparently proving, that Letters are nothing else but motion, a subtlety of discovery which few will ever imagine fecible, untill they see the secret opened among other notions reserved for our intended Academy.

That

That the formes of Letters, and so consequently of Words, may be punctually observed and took notice of.

C H A P. XI.

OUr Vnderstanding indeed is very dull at the inspection of *Formes*, and although (as the *British Stager* it truly confesseth) it be neither possible or to purpose, to seek in grosse the *Formes* of those sounds which make *Words*, which by *composition* and *transposition* of Letters are infinite : yet to enquire the *Formes* of those sounds or voyces which make *simple letters*, is easily comprehensible, and being known, induceth and manifesteth the *Formes* of *Words*, which consist and are compounded of them ; this being no more a vain pursuit than the enquiry after the *Formes* of *sense* and *voluntary motion*, which is a part of *Metaphysicke*, though *Physicke* doth make enquiry of the materiall and sufficient causes of them, but not as to their *Formes*. And if a man shall keep a continuall watchfull and severe eye upon

on the *motions* of the *month*, he may advise and take notice of the *Formes* of speech, the disclosure whereof would be fruitfull and important to this Designe: hence it is that although nothing is more variable than the *differing sound* of *Words*, yet men have found out the way to reduce them to a *few simple Letters*, so that it is not the insufficiency or incapacity of man's minde, but it is the remote standing or placing that breedeth these mazes or incomprehensions: the remedy whereof is not to quicken or strengthen the Organ, but to go nearer the Object, and therefore there is no doubt but if we will learne and use the approches and avenues of Nature, we may master any difficulty that shall oppose the designes of our Intellect. But, indeed, the Observation of the *natural Letters*, in respect whereof all Nations are of *one lip*, as before the confusion of Tongues, and the first finding them out, was absolutely the rarest and the most exquisite felicity of Invention as ever succeeded to the wit of man: and but that I thinke the wit of man able to comprehend all things in the sphere of
its

its capacity (larger than most imagine) I should be apt to attribute this subtle notion, to the revelation of some courteous spirits, it seems so to transcend the ordinary atchievement of our observation : and that so many *Languages* should result out of the *transposition* of these 24. Letters, will not appear so strange a thing, if we well consider the infinite variety of mens *coninances*, the Face consisting not of above ten Lines, the least alteration whereof caueth a manifest distinction.

That the Ancients took the essential difference of Letters, from the various motions of the Mouth.

CH A P. XII.

IT is manifest, that the Ancients chiefly distinguished the *Letters* out of the *variety of motions*, which they observed in the very instrumental parts of speech, seated in and about the mouth : because those which are made by the parts of the Body, are more *essential*,
as

as making *different articulations*, that is, *Letters* altogether *distinct* from one another, of which kinde there are not above seven *essentially distinct*, besides the Vowels: whereas there are more made from the various moving of the very ayre, which is altered and moved by a greater or lesse *impulsion*, although the *motion* and *appulsion* of parts be the same, as in B, P, C, G, D, T, F, V. For from the ayre variously affected by reason of a *milder* or more *valid motion* or *appulsion* of the very part which is moved (from whence there happens a more gentle or stronger elision of the ayre) the difference of many Letters were taken: for if the *Lip* be driven upward to the other *Lip* in a *gentle motion*, causing a milder elision of the ayre, M is made: if it be more forcibly impell'd B, if most strongly P results: so that here you have *three letters* from *one simple motion*. Now although these Letters are made with the same parts, and differ not in the variety of parts, but onely in the vehemency of the impell'd ayre, yet Antiquity received them notwithstanding into the number of Letters, to prevent

prevent Equivocations, and unprofitable Repetitions : but because those *Letters* differed not in an *essential difference*, wch is taken from the *variety of parts*, but onely according to the *greater or lesser impulsion* of ayre, which for the most part varies not pronounciation, but retain their alliance of sound and article) therefore the Ancients by reason of this cognation or affinity which they have among themselves, in that they are made by the same *motion*, they would have them mutually to give way to one another, and one to be indifferently put for the other ; whence it comes to passe that G, G. because they are formed by the same *motion* of the mouth, nor differ between themselves, unlesse because in C. the breath wanders more licentiouly than in the prolation of G. they give way to one another, although perchance they said, they gave way one to another in regard of the propinquity of the appulsion of parts in them, so that those that are formed by the same motion and only vary with the elision of the ayr, in as much as they vary by reason of the ayre, they drew out *various letters* : but

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in as much as they are made with the *same motion*, they put one for another ; which they not onely observed in the Consonants, but in the Vowells.

That the motions of the parts of the Mouth in Speech are so remarkable, that some have (not without successe) attempted to imitate them by Mathematicall motions.

CHAP. XIII.

S Vch Sagacious *Emulators* and audacious *Inquisitours* of Nature there hath been, who without naturall vertues, by *Mathematicall Magique* only, having borrowed the influences of the Heavens , produce workes like to those of Nature , as speaking Bodies, which are not endued with animall vertues; for, *Mercurius* writeth that the *Ægyptiās* by a most inutterable art, made the Images of their Gods (especially of *Mercury*) so, that they uttered an *articulate voyce*. And we have a hint

hint of encouragement to such a Designe, from the Grand Augmentor of Sciences. There is found, saith he, a similitude, between the sound that is made by *inanimate Bodies*, or by *Animate Bodies* that have no *voyce articulate*; and divers *Letters of articulate voyces*: and commonly men have given such names to those sounds, as doe allude unto the *articulate Letters*. As trembling of water hath resemblance with the Letter L. quenching of hot mettals with the Letter Z, snarling of Dogs with the letter R, the noyse of screech-owles with the letter sh. voyce of Cats with the Diphthongue eu. voyce of Cuckoes with the Diphthongue ou; Sounds of strings with the Letters ng. So that if a man (for curiosity or strangeness sake) would make a Puppet or other dead Body, to pronounce a word; Let him consider on the one part, the motion of the Instruments of the voyce; and on the other part the like sounds made in *inanimate Bodies*; and what conformity there is that causeth the similitude of sounds; and by that he may minister light to that effect.

But

But to come neerer to the point. Many of the Learned are of opinion, and perswaded in their judgments, that the *imitation* of the *motions* of our *Speech* may be effected by insensible creatures; if a Dextrous man would employ his time in contriving and making such an instrument to expresse those different sounds; we^h not having more then seven substantiall Differences; besides, the Vowells (as some who have carefully noted them, doe affirme) it would peradventure be no hard matter to compose such an Engine, which because it will be a subtile imitation of the worke of nature, it will be necessary that our Artist have this qualification of being more than superficially tinctur'd in Anatomy, the better to be acquainted with the Muscles, and the Nerves inserted into their Heads, which are the principles and springs of all those *outward motions* whereby *Speech* is *perform'd* and *uttered*. And I believe the Modell must be in fashion of a *Head*, which is the Royall part unto which *Speech* is intrusted; for as the *Tongue* and *Lips* articulate; the *Head* resounds. Frier Bacons brazen
Head,

Head, and that Statue framed by *Albertus Magnus* which spake to *Thomas Aquine*, and which he mistaking for a Magical Device brake, was certainly nothing else but Mathematical Inventions framed in imitation of the motions of speech performed by the Instruments in and about the Mouth. As for that leaden Pipe which *Baptista Porta* in his *Magia naturalis* speaks of as effectual to this purpose; or that of *Walchius*, who thinks it possible intirely to preserve the voyce or any words spoken, in a hollow Trunke or Pipe, and that this Pipe being rightly opened, the Words will come out of it in the same order wherein they were spoken, they have not so substantial a way for such a Discovery, and therefore may be scand at leasure with the Relation of *Baldassar Castilio* in his *Courtier*, and *Dr. Helyn* in his *Geography*, of a cold Countrey, where the Peoples Discourse doth freeze in the ayre all Winter, and is heard the next Summer, or at a great Thaw: yet if the conceit of *Walchius* have any Truth, it may serve somewhat to extenuate the grosse absurdity of that Popish Relique

Relique concerning *Josephs* [Hah] or the noyse that he made (as other Carpenters use, in fetching of a blow :) which is said to be preserved yet in a glasse amongst other ancient Reliques.

That Articulate Speech doth not necessarily require the audible sound of the voyce, but may consist without it, and so consequently be seen as well as heard.

C H A P. XIV.

ONE would thinke indeed, that *Speech* without the *voyce*, as the *Forme* without the *Matter* could not possibly consist: yet if one should by an emulous imagination abstract one from the other, He shall find it to be so: for, the formation of *Articles* is from *Speech*, but the *voyce* was contrived that *Speech* might be heard; for which cause it is loud and sounding: But *Speech* of it selfe alone without sound or the *voyce*, can produce mute and inaudible articles of *Elocution*. Not that

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the *Formes* of words are quite without their *matter*, He indeed, who as St. *Augustin* saith, can understand a word, not only before it sound, but also before any Image of the sound there be formed in the Imagination (although our sight at best be imperfect in this kind:) yet he that desires to attain it, must not look upon the *fashion* of our Words either as they sound in the eare, or are utter'd by the voyce, or thought upon in silence (for the thoughts if you trie them) can even feign the noise of the *Tongue*. He must passe over all these, and come to that *prime* Word of a reasonable creature, *quod nec prolativum est in sono, nec cogitativum in similitudine soni*; but doth exceed all those signes, either externall or internall whereby it is signified, and is begotten of that very Science which remains in the minde, and remains truly and properly mentall, and is produced *intellectually* onely, without *Matter* or *Motion*. But in uttering of words, which is the effect of *Speech*, there is alwayes necessarily required both *matter* & *motion*. And therefore to prevent that the *Forme* should never remaine quite without

without the *Matter*, Nature hath made a double provision; one is that a vowel should be alwayes adjoynd unto a consonant, for so the *voice* perpetually as the *Matter* is adjoynd: the other is that there should be a *momentany interscision*: for since *Speech* without the *voice* which sustaines it, cannot subsist, it is ordered the interseisions of vowels, which effect Consonants, should be all momentany, for so the *voice* is intercepted, and taken away by the vowel, and a Consonant is formed. And in the meane while *Speech* is never without some low degree of the *voice*, neither is its *proper matter* wanting unto it. The breath in its emission being driven and dashed against the instruments of *Speech*, and tacitely formed into words: And that *mute Articles* of *Speech* may be produced without any *audible utterance*, appears in them that labour of the disease *Aphonia*, and have altogether lost their *voice*: and they who are mute by Nature, cannot, speak but onely *Monophones*, that is one kind of sound or *voice*, without any *audible articulation*; whereas it is very re-

markable, that *Speech* doth not only forme out of it selfe *articles* of utterance, but also by it selfe alone can declare the conceptions and affections of the mind. *Fabricius* makes all this good by a familiar and easie Example. For when he was a Schoole-boy, there being many of them in one chamber, they were interdicted the use of *Speech*: But we (saith he) by the *motion* only of our *Lips* and *Tongue*, without any voyce at all, although we were distant one from another, did communicate our conceptions, and affections of our mind one unto another. And a curiosity of constant observation hath enabled many to doe as much: for *Lodovicus Vives* speaks of some Artists, who could discern what any man spake, though no sound of their intent approached their eare, descrying the stillest and low-voiced words of their *Lips*, helped by an Art-informing and *attentive Eye*, only by seeing their *Lips* to move and open as they doe in *Speech*. It is likewise related of ancient Doctor, *Gabriel Neale*, that he could understand any word by the meere *motion* of the *Lips*, without
any

any audible utterance. And Sir William Cornwallys speaking of a Lover, attributes such a faculty unto him. His eares (saith he) not having ability to perform their office, he therefore teacheth his eyes a *new occupation*, measuring the wind that proceedeth from his Mistresses mouth, and spelling words by the observation of her *Lips*. But we cannot wish for a more ample testimony of this thing, than the usuall practice of those friends of Mr. *Crispes*, who being intimate with him, in their familiar conversation never used their voyce, but saved themselves the unnecessary labour of speaking out, exhibiting only the motions of Speech distinctly unto him, without any other sound than that of their pure motion, which is audible enough to him who wore his care in his eye: Sound and the voyce adding nothing of perfection to the intelligible motions of Articulate Speech.

Since therefore the *Musculous extremities* of the Mouth, together with the effect the inward motions of the other Instruments doe cause without, have such an *evident stroak* without any au-

dible sound, in the *articulate explanation* of the mind ; He that can judge of the way of framing these *tacite Symbols of the mind*, besides the use we here chiefly drive at, it might be of notable use in discovering the secret whisperings of perfidious men, who are of the Generation *Solomon* speaks of , who *move their lips* , to bring evill to passe : and to discern the malicious anger of such , who (as we use to say) mutter the Devils *Pater noster*. Had old *Eli* had this Art, when he observed *Hanna's* mouth, *seeing her lips going*, when she spake *mollia verba* praying softly, he would not have so rashly taxed her of Drunkenesse as he did, but might have understood the intention of her prayer.

That

*That it is neither incredible nor impossible,
that a man borne Deafe and Dumbe,
should be taught to heare the sounds of
words with his eyes, and thence learne
to speak with his Tongue.*

CHAP. XV.

SO lazie and fluggish are the naturall
inclinations of most men, that they
are prone to limit the infinite capacity
of man, and the effects of his admirable
observations, to known and common
Matters: whereas considering his abi-
lities, and the fertility of his Braine,
there is no accident of imperfection that
may befall him, but with the indulgent
cooperation of Nature, he may work
himselſe either out of it, or invent a
supply to the defect and inconveniences
of it. For a notable instance of the in-
dustrious felicity of an observing wit in
this kind, wee are extraordinarily be-
holding to that Gallant and learned
Knight, *Sir Kenelme Digby*. That where-
as hitherto, the understanding of words
by the motions of the Lips, hath been an

Art which we have heard indeed. that many have pretended unto, yet hath been thought deceitfull and scarce to be credited; He affords us an Example of an Artist, who sublimed this Art unto an almost incredible perfection.

The History of this rare atchievement of Art is thus delivered, by that Honourable Relator.

THere was a Nobleman of great quality that I knew in *Spaine*, the younger brother of the Constable of *Castile*, who was taught to heare the sounds of words with his eyes (if that expreffion may be permitted) this Spanish Lord was borne Deafe, so Deafe, that if a Gun were shot off close by his eare he could not heare it, and consequently he was Dumbe; for not being able to heare the sound of words, he could never imitate, nor understand them: The lovelinesse of his Face,

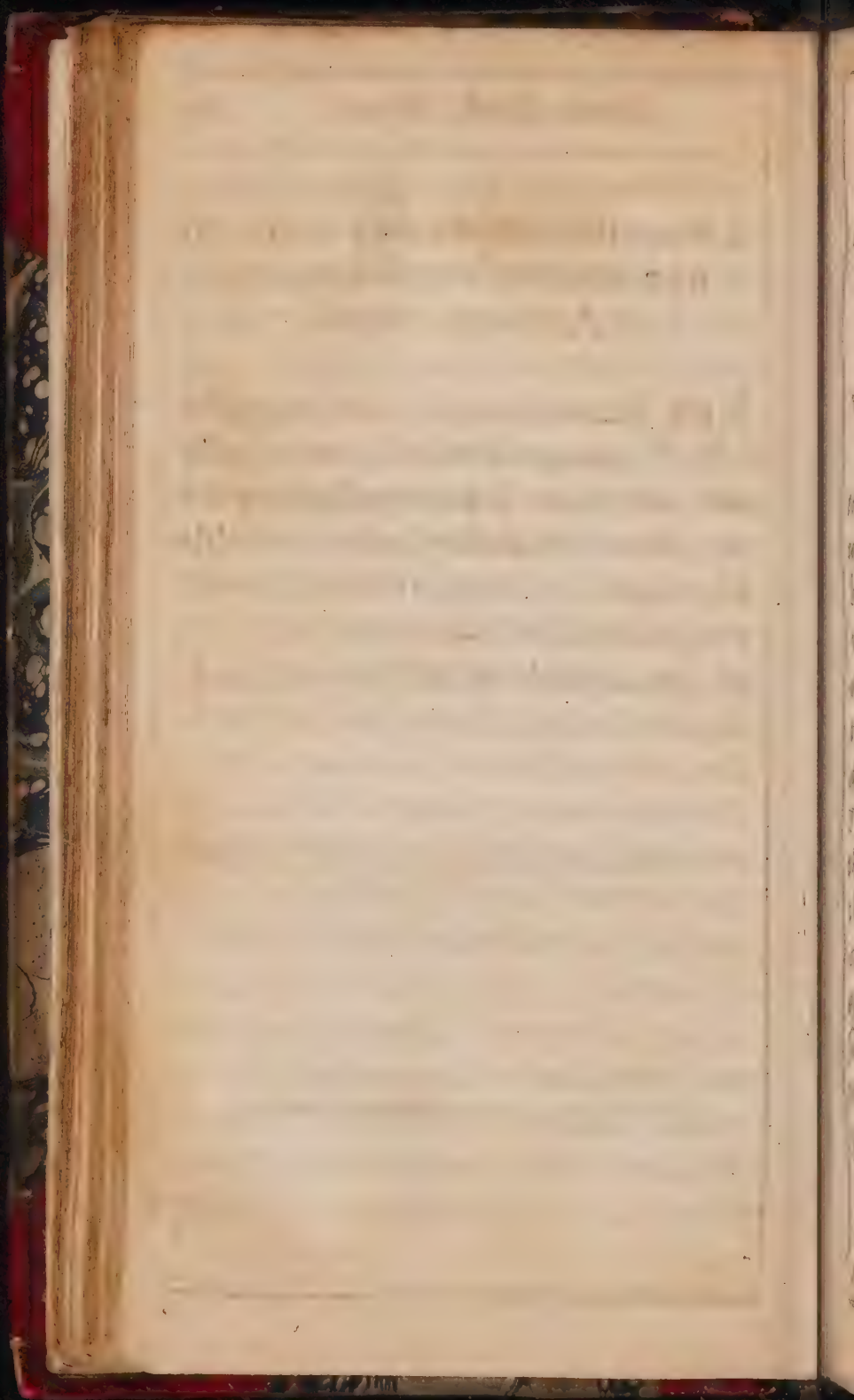
Face, and especially the exceeding life and spiritfullnesse of his Eyes, and the Comelinesse of his person, and the whole composure of his Body throughout, were pregnant signes of a wel-temper'd mind within. And therefore all that knew him lamented much the want of meanes to cultivate it, and to embrue it with the notions, which it seemed to be capable of, in regard of it selfe, had it not been crossed by this unhappy accident, which to remedie, Physitions and Chyrurgions had long employed their skill, but all in vaine. At the last there was a Priest, who undertooke the teaching him to understand others when they spoke, and to speake himselfe that others might understand him, for which attempt at first he was laughed at, yet after some yeares he was looked upon as if he had wrought a Miracle. In a word,

after strange patience, constancie, and paines, he brought the young Lord to speak as distinctly as any man whatsoever ; and to understand so perfectly what others said, that he would not loose a word in a whole dayes conversation. I have often discoursed with the Priest whilst I waited upon the Prince of *Wales*, (now our gracious Sovereign) in *Spaine*, and I doubt not but his Majesty rememb'reth all I have said of him, and much more : for his Majesty was very curious to observe, and enquire into the utmost of it. It is true, one great misbecomeingnesse he was apt to fall into, whilst he spoke : which was an uncertainty in the Tone of his voyce, for not hearing the sound he made when he spoke, he could not steadily governe the pitch of his voyce, but it would be sometimes higher, and sometimes lower, though
for

for the most part what he delivered together, he ended in the same Key as he began it. But when he had once suffered the passage of his voice to close, at the opening it again, chance or the measure of his earnestnesse to speak or reply, gave him his Tone, which he was not capable of moderating by such an artifice as is recorded *Caius Gracchus* used, when passion in his Orations to the People drove out his voice with too great a vehemency or shrillnesse. He could discern in another whether he spoke shrill or low: and he would repeat after any bodie any hard word whatsoever, which the Prince tried often, not onely in *English*, but by making some *Welchmen* that served his Highnesse speak words of their Language, which he so perfectly ecchoed, that I confesse I wondred more at that, than at all the rest, and his Master himselve
would

would acknowledge that the Rules of his Art reached not to produce that effect with any certainty. And therefore concluded this in him must spring from other Rules he had framed unto himselfe out of his own attentive observation; which the advantages which Nature had justly given him in the sharpnesse of Senles to supply the want of this, endow- ed him with an ability and sagacity to do beyond any other man that had his Hearing. He expressed it surely, in a high measure by his so exact imitation of the *Welch* pronun- ciation: for that Tongue (likethe *He- brew*) employeth much the guttural Letters, and the motions of that part which frameth them, cannot be seen or judged by the eye, other- wise than by the effect they may happily make by consent in the o- ther parts of the mouth expoled to view. For the knowledge he had of
what

what they said sprung from his observing the motions they made, so that he could converse currently in the light, though they he talked with whispered never so softly. And I have seen him at the distance of a large chambers breadth, say words after one, that I standing close by the Speaker, could not hear a syllable of. But if he were in the darke, or if one turned his face out of his sight, he was capable of nothing one said.



A Preamble to the OBSERVATIONS
upon the rare Atchivement of
Art before related.

WE must confess there be infinite things in the bosome of Nature, which are hidden and unknown to us, Nature abounding with innumerable treasures of Sciences which can never be exhausted, and in the suppression of some as in the manifestation of those that are discovered, the immense Wisdom doth sufficiently shine and appear. The particular Notions and Rules of this new found Art, may perchance as that Invention of Herophilus concerning the Rythme and metrical lawes of the Pulse, appear a little too fine and subtle for the grosse fingers of our Apprehension, and a Taske onely fit for the grand Master of Subtleries himselve. But upon the atchivement being matter of fact, a lesse acute understanding may fasten a few easie Observations.



Observation, I.

THe first thing observable that occurs in this Relation is, that *this Spanish Lord was taught to hear the sound of words with his eye, if that expression may be permitted.* Indeed the exploit and expression both, are very new, and may seem exceeding strange to those who either know not that there is a *community* among the Senses; or have not well thought upon it. It being admirable how the objects of one *Sense* may be known by another; and how one *Sense* will oftentimes supply the office and want of another: for *light* may be *felt*, *odours* may be *tasted*, the *relish* of *meates* may be *smelt*, *magnitude* and *figure* may be *heard*, and *sounds* may be *seen*, *felt*, or *tasted*. Examples and Experiments of all which Exchanges I am able to produce upon occasion: so that to exercise *Sense* is, our brain to receive an impression from the externe object, by the opera-

operation or mediation of some one of those which we call an *externe Sense*, yet there seemes to be no absolute necessity that *Sensation* must be made by an organical part made for that purpose, but *one sense* may be exercised by the Organs of another, by changing the offices of the *Senses*, which well examined would keep the most Sceptical from doubting of a *community* among them, if not of degree, at least of the whole kinde: for we see the *touch* is the ground-worke of all the rest. And therefore *Campanella* in his ingenious Book *De sensu rerum* proves, that all the *Senses* are but *Tact*: but the *sensories* and manner of *sensation* differ, which he makes good through all the *Senses*, proving that all *sensation* is performed by contact. By looking into the causes whereof we shall discern these strange effects to fall within the observation of Art, and to deserve a further enquiry. That *odours* should be *tasted* and the *relish* of *meates*, *smelt*, is not strange, if we consider the conformity betwixt the two *Senses* of *smelling* and *tasting*: for, Physicians that write of these *Senses*, finde them very

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conformable : and therefore it happeneth that the loosing of one of them, is the losse also of the other. And accordingly the very names which men have imposed to expresse the affections of both, do many times agree : as *savour*, which is common both to the *smell* and *taste* ; and *sweet* likewise : the strongest of which we see oftentimes do make themselves known as well by the one as by the other *Sense* ; and either of them in excessse will turne a mans stomacke : and therefore deafnesse which *Marcellus* calls *Surdiginem*, the *Greeks* call *κωφω* ^{on} which word as *Herotianus* notes (with *Hippocrates*) doth not only denote a privation of Hearing, but also sometimes a privation of sight ; after the same manner (almost) as we finde among the *Latines*, that *surditas* doth oft signifie a privation or obtusion of divers *senses*, but howsoever one *sense* through a *sympathetical* league more naturally and strictly observed between it and some other *sense* may be impaired or suffer damage upon the defect of that other *sense* : yet there is seldom any decay in Nature, but will be by this community some-

someway supplied. For if all the *senses* should be defective except the touch (which cannot be utterly lost without the privation of life) the virtue of all the *Senses* would run into the touch, and make that not to be deposed King of the *senses* so accurate, it shal be able to officiate for all the rest. And indeed the expressions are somewhat remarkable, that men defective in their *Senses* often use, which seem to acknowledge no defect, but what they have an equivalent recompence for; it being ordinary for blinde men to use words as if they saw: which I remember *Montaigne* in his *Essays* takes great notice of, who was once visited by a blinde Gentleman, who took upon him confidently to commend the Architecture and contrivance of his Mansion-house: What a fair lightsome room, saith he, is this? What a goodly prospect this house hath? What a fair & beautifull childe is this? Taking upon him to judge of colours and all manner of beauty and proportion. And this day I followed a blinde man in *Red-crosse-street*, who being near a Brew-house made a stand; Oh, saith

saith he, This is a Brew-house, I see it ; to whom I: It is will guessed, Are you sure you see it ? I, replied he ; That I do, I smell it. Two Gentlemen passing by, smiled at the blinde mans expression, Nay, I assure ye Gentlemen, said I, He is in the right, for he does see it, so I passed on leaving them two behinde me blaming the sobriety of my justification of that, as they thought impropriety of *Speech* used by the blinde man, which put me in minde of a passage in *Servius* in his *Traetate de Unguent. Armario*, of a man that having lost his eyes, saw notwithstanding through his nose. And I believe men accidentally deaf, who can speak and perceive any thing by the motion of mens lips, wil be apt (to the great justification of ocular Audition) now and then to say I hear, or I have heard : and being the other day in company of one Master *Oxmyth* a *Spanish* Merchant to whom I am much beholding for some intelligence out of *Spain*, and he telling me somewhat of the rare qualities of this *Spanish* deaf Lord, which his Factor had sent him intelligence of, (to satisfie my curiosity who had formerly intreat-
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ed that favour from him. He began to tell me somewhat of the most remarkable properties of *M. Crispe*, who is well known to be deaf, and among the rest he said, that a while ago he walking with him in the company of others, one asked him how his Brother did? My Brother (replied he presently) is very well, I *heard* from him but the other day: and whether his intelligence came by word of mouth, or from the mouth of a pen; in transitory or fixed words; He that had an Ear in his Eye, might well say, He heard from his Brother. and that the defect of the *Ear* in deaf men, may be supplied by the office of the *Eye*, or the defect of the *Eye* in blinde men by the office of the *Ear*; so that the *Ear* also may *see*; will not appear so paradoxical, if we consider the consent of *visibles* and *audibles*, as it is elegantly set forth by my Lord *Bacon* in his Natural History, Cent. 3. from *Exper.* 255. to *Exper.* 267. which being long to recite, I referre to the inquisition of the curious. And with good judgement for demonstrations sake, did that *Heroe* of learning use in divers instances, the ex-
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amples of the sight and things visible, to illustrate the nature of sounds, prosecuting it to a more full comparison, since the hearing hath a great affinity with the Organ of sight, for they have both one common faculty, and the extremity of the auditory passage, where the Nerve dilated is conjoyned with the included aire, doth answer to the Chrystalline : in like manner those parts which are about the involution of the *Eare* are correspondent to the sight of the *Eye*, and the other parts about the *Chrystalline*. And I would fain know why *Gordonius* a learned Phisician, as appeareth by his Workes, in his Description of the Instruments of Hearing, where he writes of the *Diseases of the Ear*, attributes a *concave optique Nerve* unto the *Ear*. His *Marginal Commentator* confesseth he seeth not for what reason he doth it, and till some bodie will undertake to see farther into his minde, we may suppose he was a secret Friend, and a well-wishing *Nichodemus* to *auricular vision*. Now whether the expression of *hearing sounds with the Eye* may be permitted, will

will appear, if it cannot be denied but that *Hearing* is nothing else but the due *perception of motion*, and that *motion* and *sound* are not different entities, but in themselves one and the same thing, although expressed by different names and compized in our understanding under different notions, which is proved by the observation of *sounds* which follow the lawes of *motion*, for every effect of them is to be demonstrated by the *principles* and *proportions* of *motion*. So that *motion* alone is able to effect and give account of all things whatsoever that are attributed to *sound*, and *sound* and *motion* do go hand in hand together, and whatsoever may be said of the one is likewise true of the other. *Aristotle* therefore defines *sound* by *motion*, and the *Voyce* to be a kinde of percussion, and therefore *sound* is the same with *motion*, and no resulting quality, which may be further convinced by the ordinarie experiment of perceiving *Musique* by mediation of a stick: for, a deaf man is capable of that *sound* no otherwise than as bare *motion* is *sound*. Now since *articulate sound* or *motion* may be perceived by
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the *Eye*, then it may *hear* as well as *see*, and *hear by seeing*. It will be no great impropriety of *speech* to affirme the *Eye* may *hear*, since it can perceive the adequate object of *hearing*, and performe the office of an *ear* in judging of *sound* as it is *motion* (all *sound* being *motion* as soon as it is perceived) and the thing which we call *sound* and makes *speech* audible, being purely *motion*. Indeed *sound* wch is but an accident of *speech*, & which is as they commonly speak, the *sensible quality* of *Hearing*, is reckoned by Philosophers to be *proprium sensile*, to wit, to be perceptible but to one *sense*: yet as it is *figure* and *motion*, which two alwayes imply one another, and of the essence of *speech*, it may be accounted *commune sensile*, and be perceived by more outward *Senses* than one. I but sayes one, if *sound* be *motion*, Which is the *mobile*? Surely, in *articulate sounds* which are the *motions* I onely undertake for, the *mobile* may be the *aire* or *breath*, as it is moved and informed by the instruments of *speech*. And if that be not liked, What thinke ye of the *Lips* for the *mobile* of *articulate motion*? Verily, although

although I am not of his opinion, who held that *motus* and *mobile* were all one: yet by a warrant of Anatomically subtletie I may say, that *movens* and *mobile* are; for in the *lips* which were to move and be moved in speech, the *motory power* is mingled with the *mobile*. I, but no *motion* is performed in an *instant*: but *sound* in an instant fills thousands of *ears* if they be neer. Surely, *Articulate motion* also is performed in an *instant*, and can fill thousands of *ears* or *eyes* if they be at a convenient distance. I, but *rest* is opposite to *motion*, but it is not opposite to *sound*. Surely, *silence* which is a *rest* from speech, is opposite both to *motion* and the audible *Articulation of sounds*. I, but againe it is objected, here are many *motions* without any *sound*, for you may move your *hand*, or any part of your Body without *sound*. It may bee not: for we have reason to suspect there may be some kinde of sound in every motion, according to that of *Ausonius*, *Nihil minus Natura dedit*. And I thinke and beleeve there is some *sound* in every *motion*, although it may not be perceived, being drowned by other greater sounds

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that are about us. And wee are emboldened by this Art to question whether the *eare* bee the onely judge of *sounds*. The rather, since there are some nations have no eares, yet heare most exactly. Tis true, *Articulate motion* requires not alwayes a *audible sound*, but a *visible* it doth at least; and therefore not to be accounted among those *motions* which are supposed to passe without *sound*: For otherwise, *Articulate sound* and *motion* being one and the same; you will make them like the two *Socii* in *Plantus*, mock one another, as if *Articulate motion* should passe without *sound*, that is, without it selfe. I but yet againe, there is a *sympatheticall* and *antipatheticall* power in *sounds*, to affect or disaffect the hearer, which is not in *motion*: although there be not found objects so ingrate to the eye as to the eare, yet in *Articulate sounds* this way perceived by the eye, there is, as well as by the eare; for, what are the angry frownes and stormie motions of a tempestuous countenance, which provokes the face of another to the like impetuosities, but antipatheticall motions? and what are yawnings
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and laughter, which appeares chiefly about the mouth; but sympatheticall motions which passe from one man to another, and affect or disaffect them with the like? More especially these sounds of motions which are audible to him that heareth with his eares, have a power to gratifie or distaste his ocular eare.

But I have no designe to oppose any mans fansie, or to impose any thing upon it, if they will give me leave (at least for the decency and countenance of the argument I handle) to say and thinke thus: Let them enjoy the liberty of their judgement, for wee are not necessarily engaged by our designe, to make good this expression of *hearing sounds with the Eye*. Therefore as for that, wee say as the great Advancer of Learning saide of factitious Gold: If a mettall may be procured by Art which shall exactly answer in al things the properties of Gold, let men dispute whether it bee Gold or no: So if we may by the favour of God have this Art so successfull unto us that a Deafe man may be brought to enjoy the benefite of an eare in his eye; that is, the eye to officiate for the eare, let men

dispute whether he heares with his eye or no: for wee are not so magistrall in this matter, as to have any thought of deceiving others with a vaine Philosophy of swelling words.



Observation. II.

H*Ee was borne Deafe and Dumbe.* Great are the Nation of those (otherwise ingenious men) who have fallen under this unhappy accident; the causes being various and unknowne: there are who suppose that this happens to some through the *propriety* of their *place of birth*. *Soranus* affirms, that those who are borne in Ships at Sea, are by a *propriety* of their place of birth, like Fishes, *mute*. *Monino* confidently affirms, that by a *propriety* of the place, they who were borne within the walls of the Castle of Claramont, proved *dumbe*; as it happened to all the Barons that were borne there. Astrologers say that Childe will be *deafe*, that is borne
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when *Mercurie* is Lord of the sixt house, and infortunate by evill aspects with *Saturne*, chiefly if he be in the sixt house: Likewise they will have great impediment in their hearing, in whose nativity Jupiter and Saturne bee both impede and infortunate above the earth; that is, if they be retrograde or combust in evill places. And if *Mercurie* be impede of Saturne in a Childes nativity, it doth hinder the tongue; but it is worse when they be corporally conjunct together, especially, in the Ascendent, or in the seaventh house, and in the same signe with the Sun. (*Mercurie* being then Occidentall:) or if *Mercurie* be above the earth corporally conjunct with Saturne, or else in an evill aspect of Saturne, and in a *dumbe* signe called *Signum mutum*, and also is unfortunate, that is to say, in an evill place, retrograde or combust and peregrine, that party then borne, will have great impediment in his *tongue*, or else will be *dumbe*, and cannot speake. Sometimes the sinne of the Parents are exemplarily punished in their children. Dr. *Joachim* the brother of *Camerarius*, told him he saw in the Court of the Lant-

grave of Hesse, a Boy *deafe* and *dumbe* so witty, that hee could not wonder enough at his dexterity in executing the commandements that were given him; for by a winke of the eye, hee conceived of the will of the Prince and of his household: The Lantgrave seeing him wonder at the sight, hee told him: You see this young Boy, his use is to declare with a marvelous readinesse by gestures of his body, and by *motions* of his fingers, any new thing he seeth done in the Court or City. He is an example of Gods justice, for, his mother being *accused* of stealing when shee went with childe with him, used such an imprecation, that if that which she was charged with was true, her Childe might never speake when, it came to be in the World, but remaine Dumbe all his life.

To some this is an hereditary evill and an *imperfection ex traduce*.

But why Deafe men should get deafe children? may be from that similitude which springeth from the seede, in as much as it flowes from the whole oecomy of the Body; that is, sometimes it flowes out more from the Father, sometimes

times from the Mother ; from this plenty of provision proceedeth the similitude, so some part in children resembleth the Mother, another part the Father ; as that seed hath more copiously issued from the parts of either Parent. And commonly when a Deafe and Dumbe man hath got his Wife with childe, there is a solicitous expectation in their Friends, whether the childe should prove Deafe and Dumbe or no : For it falleth not out alwayes , that the children of Deafe and Dumbe men inherit that imperfection of their parents, as intailed upon them : whereof the reason above mentioned may serve, that is, the seed of the perfect parent may be more luxuriant and predominant, whereof I have known some examples. What the issue of a Deafe and Dumbe man and woman would prove, there hath beene no opportunity afforded to trie , because few Philosophers have beene bidden to such a wedding. The like reason may be, why they should have deafe Children who are deaftened by some disease, or by reason of some over-potent object which hath destroyed their sense of Hearing. Upon which a Quære

might be raised, whether the children of those who dwell neere the Catarrachs of Nile (whose parents are all deafe,) are not commonly borne deafe also, rather then afterwards so made.

We doe not heare indeed, that any of the brethren or family this Lord was of, were unfortunate in the like defect, although that hath beene the sad condition of many eminent Families. *Fernelius* writes of a Senatour, whose Wife being healthy, yet all the children hee had by her were *deafe* and *dumbe*; the cause he judgeth to be very darke and obscure. *Cardan* speakes of a woman that had five and twenty children, of two of which number shee was delivered within tenne moneths, both *deafe* and *dumbe*, which both lived, and lived in his time; the one with three Mola's, the second with two, not onely dead but putrified; who while she went with them felt not her selfe as with her others, but shee felt as it were a weight of lead in the bottome of her belly. It being very likely that the Mola's growing to by reason of their frigiditie (for they are as congealed blood) did hurt their braines, thence the hearing, and

and so dulled the facultie of speech, especially when they putrified.

Nor are examples of these sad accidents very rare among us; such therefore as I have either knowne, or by credible intelligence gained notice of from others, I shall here annex, conceiving it fit to enlarge the Forreigne story of Deafe and Dumbe men, with such additionall notions. The rather that wee may come a little out of these outlandish Writers debt, and in some reasonable sort, vie Historicall observations with them.

Sir *Edward Gostwick* of *Wellington* in the County of *Bedfordshire* Baronet, a Gentleman otherwise very accomplished, was borne *deafe* and *dumbe*; hee hath attained unto writing, which is a substitute of speech. and from whence there lyes a way if well followed, to the recovery of an Articulate voice. Hence, writing to them that are deaf and dumb, may serve in stead of speech, who therefore doe best begin to write, and afterwards learne to speake. The first invention of Writing was to make *Verba visibilia, missilia, & permanentia*, to remedy

medy the defect of speech that vanissheth away, is onely audible, and cannot bee wrought into discourse but by two that are present together, whereas this invention puts an eare, as it were into the eye, and presents our cogitations visible and legible, writing being the later invention; speech by it selfe signifies all our conceptions, and writing signifies our speech; for, writing to words, is as words to cogitations: Yet this order is not of necessity, that speech must bee learnt first, and afterwards Writing should succcede, to signifie our words; rather then words writing: there being no naturall necessity for it, so that the contrary cannot bee done: But it happens rather by reason of the facility, and because men that are deprived of none of their senses, are apt sooner to speake, then to write; the tongue being sooner fitted by nature for that employment, then the hand for this: But the cleane contrary may be done, as appeares in the atchievement of this honourable Gentleman, and others mentioned in this book. For as they who have their hearing doe as the readyer and better way begin at speech,

speech; so they who are deafe doe best begin at writing: Therefore neither of them hath a naturall necessity, but it seemes by the nature of the thing, that the reason and account of speech and writing is the same; but that they have a greater facility of speaking, who enjoy all their senses; but they who want their hearing, may have writing in stead of speech, and the notice of things accrues to them by sight, as to others by hearing: So that speech is as it were a silent and audible writing, and writing is a visible and permanent speech, and withall so missive, that where the eare is absent, we can send our mind by writing to a friend; why not then when the faculty of hearing is wanting, as in deafe men, may we not send a message of intelligence to his eye in writing, since the eare and eye are knowne to exchange objects, without any robbery, in case of necessity, transferring their sensitive rights one unto another?

The youngest brother of the said Sir *Edward Gostwick* is in the same condition, being yet an excellent Limbner, invited to that art by his Genius, or some
signalitie

signalitie of spirit observed in him. Painting and Limbning next to writing, having beene ever thought of excellent use, and to afford singular contentation to those that are borne deafe and dumbe. And therefore *Q. Pedius* the Nephew of *Q. Pedius* a man of Consular degree, and one that had tryumphed, by *Cesar* Dictator, made Co-heir with *Augustus*, being dumbe by nature: *M. Sala* the Oratour, of whose familie the Grandmother of the childe was descended, being carefull how the Boy should be brought up, after mature advise and deliberation thought good that he should by signes and imitation be trained up in the Art of Painting: And *Augustus Caesar* approved of his judgement and advice herein; and in truth, the young Gentleman being apt thereto (although he dyed a youth) was growne a great proficient in that Art.

Sir *John Keyes*, Master of the Ordinance to King *James*, had two Sisters, who were both borne Deafe and Dumb; they could write, and were very ingenious to imitate any kinde of needle work they saw.

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Sir *Miles Fleetwood* hath two handsome Gentlewomen to his daughters, both borne *deafe* and *dumbe*.

De La Barre the rich Dutch Merchant, who lived at Eeling in Middlesex, had two daughters born *deafe* and *dumb*, they were both marryed: A Friend of mine who was once in their companies at Brainford (their Husbands also being there;) told me he did much admire at their dexterity of perception; for by the least motion of their Husbands countenance or hand, they presently conceived of their meaning.

Master *Freeman* of London Skinner, had two daughters both *deafe* and *dumbe*.

One Master *Diet* a Parson in Staffordshire, hath a Brother and Sister both *deaf* and *dumbe*.

One *Thomas King* Farmer of Langley, in the County of Essex, had by one woman a sonne and three daughters, all *deafe* and *dumbe*.

One in Osmaſton, within a mile of Darby, had foure ſonnes and all of them were borne *deafe* and *dumbe*.

One *John Gardiner* of Thaxted in Essex, hath a ſonne and daughter both *deafe* and

and *dumbe*; his sonne *Robert Gardiner*, is a Tradesman here in Towne, and one of the most notable examples I have discovered, for prooffe of the feeling of sounds: and whom to the satisfaction and admiration of some Friends of mine, I have shewed and exposed to a philosophicall view and tryall.

And as I am informed by a Merchant of credit living in London, who hath a sonne *deafe* and *dumbe*; there was in Lincolneshire, one Master *Dallison* a Gentleman that used grazing, who had three sons born *deaf* and *dumb* who made them all 3 Graziers; and they proved the craftiest in that way, that the Country ever bred: for they were very expert at their pen, which they managed in all their affaires, with singular readinesse, using it (as it is indeed) for a kinde of supplementall speech: I am informed by an accomplished Gentleman that knew them, a learned Friend of mine, they were so accurate at the pen, that they could write the Creed in the compasse of a farthing, which he hath seene fairely so written by them.

One Master *Adams* in the East of Kent had two daughters, very handsome proper Gentlewomen, which were all the children he had, and they were both borne *deafe* and *dumbe*.

A Husbandman of Sherington, within a mile of Newport, in the County of Buckingham, had a sonne and a daughter both borne *deafe* and *dumbe*.

A Husbandman living at Tilstone in Cheshire, about seven mile from Chester, had two daughters. Twins, that were borne *deafe* and *dumbe*, having but two eyes betweene them; one of the eyes of each of them being originally blinde; they lived both to be old women. Some Cheshire men of my acquaintance, who knew them both, affirme, that they had a very strange and admirable nimbleness of perception, both to understand others, and to deliver their owne mindes by signes, which happened, without doubt, unto them through the marvelous recompence that nature affordeth in such cases: For, having but one eye, the sight of that was certainly very accurate.

Aristotle is of opinion that deafnesse and dumbnesse are privations onely happening

ning unto men. Yet there be who are of another minde for, that Horſe who never moves nor prickes up his eares at any noiſe or ſound, and uſeth to caſt back his eares, is deafe : and that horſe who in the companie of thoſe he hath uſed to travell with, never neighes, is dumbe. Yet if a Horſe were ſoaled deafe, hee would not be conſequently dumbe, becauſe the ſpeech of beaſts is naturall unto them, and hath no dependencie upon the eare, and ſo it cannot be excluded by a privation of hearing, through any naturall deafeneſſe.



Obſervation. III.

HE was borne deafe, and ſo conſequently he was dumbe. They who from their firſt conformation and birth are deafe, they likewise are ἀναυδοι or at leaſt live μωλᾶλοι. Hence *surdus quæſi ſeoridus. i. ſine ore*, and *mutus quia eo ſenſu minutus*. The chiefe cauſe why they who are borne deafe are conſequently dumbe,

dumbe, is supposed to be the *sympathy* betweene the instruments of *bearing* and *speaking*, the reason of whose strict *society* and *communion* is not knowne to all men; which according to *Bartholinus* is two fold: first a nerve of the fifth conjugation hath diverse branches shooting from it, the greater is expanded into the *Eare*, and the membrane which is of exquisite sense, and carries the species of all sounds unto the *Braine*: the lesser branch runs out to the *Tongue*, and the *Larynx*, by reason of this communion of vessels (which with *Hippocrates* and *Galen* is the onely cause of a simple sympathy) the affections of the *Eare* and *Tongue* are easily communicated. Hence when the membrane of the *Eare* is touched by two deepe a picking, there followes a dry Cough; and in the inflammation or impostume of the *Lungs*, with a shortnesse of the breath, the eares grow moyst. The second cause of this *sympathy* is a little *Cartilagineous Canale*, as it were an *Aqua-duct*, which from the second passage of the *Eare* is carryed unto the *Palate*, so that from the *mouth* into the *Eare*, and from the *Eare* into the *mouth*,

mouth, the ayre doth freely passe and repasse, whence when wee would heare with more attention, we hold our breath lest by inspiration of the thick ayre, the *Cochlea* of the eare should be filled, and the Tympanum extended. They also that doe pick their eare, doe raise spettle, because by that compression there is made an expression of excrements into the *Cartilagineous Aqueduct*, and from thence into the *Tongue*, for, by this way (which was made to purge out the congenit ayre) there lyes a passage for the excrements from the eare to the mouth, but not *è contra*, by reason of the *Valvula* it hath; whence in the affections off the eare, *Masticatories* are so beneficiall. And therefore when the instruments of *hearing* are hurt or ill affected, the instruments of *speech*, that have so neere an allyance unto them, are likewise endamaged. *Laurentius* sayes, that they who from their *first conformation* are *deaf* by reason of the *obstruction*, *exolution*, and *refrigeration* of the *nerve* of the *first paire*, they also are *mute*. *Campanella* sayes that *naturall deafenesse* proceedes either from the *obstruction of the Auditories,*

ries, or the want of the *Meningis*, and these are all *mute* without a voyce, not without sound, for sound is naturall, but the voyce and speech is learnt by hearing, or altogether destitute they are of speech, yet they utter a voyce, which is so far from enabling Dumbe men to expresse their conceptions to others, that they seeme very unapt to doe it, neither can any understand Dumbe men, unlesse those who are a long time and much exercised with their conversation; neither could they then, unlesse Dumbe men themselves, besides the voice, did adhibit diverse gesticulations of the hand and whole body: Notwithstanding, in as much as the voyce is naturall, it is understood of all men, and therefore when Dumbe men utter any sad voyce, all men understand it, and will perceive the affection of the minde to be sadnesse; and herein Dumbe men will also very well understand one another, if they be not originally Deafe.

The great noyse and gabbling which Deafe and Dumbe folks make, especially when they are angry, proves them to have a sufficient command of their voyce
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the sound whereof many times makes the house to ring againe, with their inarticulate noyse of their anger : Inso-much as he who to avoyde the inconvenience of Domesticke tempests, should marry a Dumbe Mistresse, may perchance speed no better then Seignior *Moroso* did with his Silent woman.

The reason may be, That Deafe and Dumbe folke being deprived of hearing, they are not so capable of a soft answer or Apologic inductive to a pacification, which might allay and calme the tempest of their anger : and then wanting a vent of speech, whereby others usually denounce their indignation, they pay it with the voyce, which is the onely weapon they have left, moving their tongue, as if they would hammer and forge out something equivalent to an Articulate voyce ; which they manage to the utterance; from which there results such a noyse, which although inarticulate, is significant enough to expresse their passion and chollericke indignation.

Petrus adjudgeth deafenesse to happen

pen through an ill and unapt structure of the eares, and imperfect *occlusion* of the *auditory Nerve*, or by obstruction from a humour, or crasse winde, and these for the most part are *mute*.

Jonstonus sayes, *deafenesse* happens through default of the braine, which either begets not animall spirits, or transmits them not, through some peculiar disease. Secondly, in the *auditory nerve* which doth not carry them, or by a vicious conformation; whence *deafe* men are for the most part *dumbe*. Some indeede thinke that originall *deafenesse* may happen through a dislocation or ill disposure of the little bones of hearing. But *Capivaccius* says they erre and are ignorant in *Anatomic*, who thinke the hearing may be hurt through any defect of those three little bones of the eare. It were to be wished, that dissection had been made of many *Deafe* and *Dumbe*, which might have discovered the ill conformation of the instruments of hearing, and the other causes of these impediments.

Magirus Sennertus and others from
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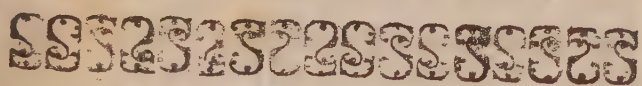
the same *sympathie* interre *dumbnesse* to be a consequence of *naturall deafnesse*.

Varolius on the contrary, itterres *deafnesse* from *dumbnesse*. The *auditorie Nerves*, saith hee, arise on both sides of that part of the *Cerebellum* which he calls *Pontem*, or the Bridge; and the *nerves of Taste* arise about the middle of the same betweene both the *nerves of hearing*: From which my observation, you may saith he, if you please, drawe out a reason, why from those that are *dumbe* by nature their *hearing* also is taken away. Since the *nerves of hearing* and the *Tongue* are derived from the same principle: But this is not so probable a way of arguing as the other, since the chiefeft signe to distinguish *naturall deafnesse* from diseased, is, that they who are borne *deafe* are alwayes *dumbe*. Of which the true cause is not this supposed *sympathy* betweene the *care* and the *tongue*, which *Mercurialis* a most exact and judicious Physition approves not of; but that which followes in the relation is the undoubted cause; for, this Lord was *deafe*, and so consequently

ly *dumbe* ; for not being able to *heare* the sound of *words*, he could never *imitate* nor *understand* them: Therefore *Alexander* answering to this Problem; Why they that are borne *deafe* are likewise *dumbe* ? Saith, That *speech* and discourse are acquir'd by discipline, discipline comes by *hearing*. Whence *hearing* taken away, there is no place left for *discipline* to enter in, and so consequently *speech* is destroyed ; it being impossible to apprehend *Idioms*, or to forme new, without *hearing* : For, the minde of the *deafe* not *instructed* by *sound*, cannot tell how to forme those vocal words which the wit of man hath invented, for they can neither conceive in their minde, nor produce with their tongue words which they never *heard* : For, *speech* in the naturall and ordinary way, is learnt by *discourse*, *heard* and conveyed to the understanding by the *care*, which is the *sense of discipline*. For, man being borne to the knowledge of all things, it behooved him in sooth to be *disciplinable*, that beside *sensitive* knowledge, his understanding might perceive those things by *discipline*, to which the
senses

senses could not attaine, but the hability to *discipline* consists in the nature of our Intellect, which is certaine pure power of its owne nature respective to all kind of knowledge, to which in as much as it is *disciplinable*, all the senses are servicable, but more especially the *hearing*, without which men attaine to none or little and unconsiderable *discipline*: for they who are born *deafe*, or become *deafe* in their infancie, although they may have the parts of their voyce and speech, yet they never learne to speake, wanting the chiefe *medium* to greater *disciplines*. And although *deafe* and *dumbe* men may attaine to some knowledge by *discipline*, yet they never arrive to the intimate essences of things by apprehension whereof our Intellect gains a proper perfection. All this happening unto them through their defect in *hearing*, which as *Theophrastus* saith, of all the senses is neereest allyde unto Reason, and therefore thought by *Aristotle* most to confer to the receite of *discipline*. *Montaigne* (as *Riverus* also) would have both the reasons *sympatheticall* and *privative*, to introduce the *consequence of dumbnesse* upon

on deafnesse, being of opinion, that the reason why they that are *deafe speak not at all* is, not onely because they could not receive the *instruction of Words by the Eare*, but rather in as much as the *sense of hearing* whereof they are deprived, hath some affinitie with that of *speaking*, both which with a naturall kinde of ligament or seame hold and are fastened together: in such sort as what we speake we must first speake it unto our selves, and before wee utter and sound the same forth to strangers, we make it inwardly to sound unto our *Eares*.



Observation. IV.

HIs deafnesse it seems was such that if a Gun had beene shot off close by his eare, he could not heare it; yet Physicians and Chirurgions had long employed their skill to remedy that unhappy accident. Which method was commendable in respect of the uncertaine cause of the impediment: For although the cure, according

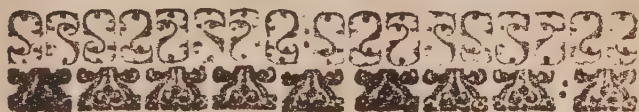
according to the opinion of all, cannot be effected where originall deafenesse proceeds out of the privation. (or as they speake) *Ex carentia foraminis*, that is, when the *Auditorie nerve* is wanting, and not planted in the *stony Bone*, or when the *nerve* it selfe is created solid: or when the *orbicular membrane*, the *Tympanum*, or more properly called the membrane of the Tympanum, which is pellucid, thin, and subtile, that sounds might be more easily transferred to the congenit ayre, is thick from their birth: because these things happen through a defect of the *Plastique virtus*: And what nature once takes away, the Physitian by no art can repaire, there being also no returne allowed from a privation to a habit: Yet since possibly some other matter might bee in cause, and nature many times in a strange extraordinary manner appeares propitiously to co-operate with the administrations of Art; this conclusion was necessary, which preceding the attēpt, was a means of advancing the reputatiō of the cure which was wrought by a new way of *ocular supplantation*, beyond the reach of any cōmon Aurists

Aurists skill. But before we winde up this Observation, it would be worth the noting, what *Mercurialis* conceives to be the causes why *hearing* is so frequently hurt from mens nativities, which he delivers to be chiefly three. One is, that the Infant in the wombe hath all the instruments, almost of the senses occluded, except the *eares*, for it hath neither the *nostrils*, nor *mouth*, nor *eyes* open: Yet for the most part it hath the Eares wide open, and therefore it easily comes to passe that somewhat out of the wombe may fall into the Eares, which indeede cannot happen to the other senses. Another reason is, that the inward instrument of *hearing* is empty, and being empty in the wombe, and a moist moyst head, is easily replenished. A third reason is, that the *auditory nerves* & the proper instrument of *hearing*, are nearer to the braine then the other instruments of sense, and being nearer the braine, are more passible; and hence it comes to passe, that they are more easily offended. To these *Varolius* seemes to afford a fourth reason, or if you had rather, the third. very much explained and enlarged. Therisong

saith he, of the *Auditorie nerves*, from the processe of the *Cerebellum*, as it shewes the use of the after-Braine was to be the chiefe principle of the sense of Hearing: So it teacheth us the cause why more are deprived of their *hearing* from their nativitie, then of any other sense: For since they proceede from the *Cerebellum*, and are not drawne out far, they are easily stopped with the *mucons* excrements thereof.

Another thing observable is, that both the *Eares* are alwayes affected in originall *deafnesse*; that being the chiefe signe of naturall *deafnesse*, which being caused, almost, alwayes through the disease of the Braine, whence the cause being *internall* and common to both the *Auditorie nerves*, it is necessary that at the offence of a Principle both the *nerves* should be offended, and consequently, both Eares grow Deafe. Which happens otherwise in Diseases, because *deafnesse* in a Disease, for the most part, proceeds from some externall cause precedent; now an outward cause may hurt one Eare, the other unhurt, because the Eares being very remote, one eare may be

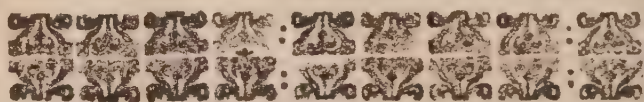
be hurt from without or within, the other unhurt: so that the Principle of the Nerve be not offended.



Observation. V.

THe lovelinesse of his Face, and especially the exceeding life and spiritulnesse of his Eyes, and comelinesse of his person, and the whole compofure of his body throughout, were pregnant signes of a well tempred minde within. Whence we note, that it is requisite he should be an expert Phisiognomer, who attempts this Art to judge of the capacity, fit yeares, and ingenious compofure of countenance, the signe of a well tempered and Docile minde, which as they were inductive encouragements to the first Attemptor: So no question did much conduce to the facility of the worke For, *Ex omni ligno non fit Mercurius*, and it had been in vaine to have cast away time to relieve an Idiot, maugre the indisposi-

tion of Nature and Minerva, who had not so much as matter to worke upon.



Observation. VI.

ALL that knew him lamented much the want of meanes to Cultivate his minde, and to embroe it with those notions which it seemed to be capable of, in regard of it selfe, had it not beene so crossed by this unhappy accident. The condition that they are in who are borne *deafe* and *dumbe*, is indeed very sad and lamentable: for they are looked upon as misprisions in nature, and wanting *speech*, are reckoned little better then *Dumbe Animals*, that want *words* to expresse their conceptions; and men that have lost the *Magna Charta* of *speech* and priviledge of communication, and society with men: For by this one thing men chiefly differ from other living creatures. This is the *interpretor* and as it were, the *message* of the minde: This doth easily expresse and declare those things which
the

the understanding conceives. All which things, how much they confer to the attaining of *discipline*? how much to the society of men among themselves? And lastly, how much to their conservation and perfection? hereby appears manifest, that they who are most able in *speech*, they also seeme to excell among men, and to be of a more excellent understanding: To summe up all; *Speech* doth so much avayle to the adorning and perfecting of man, that nothing almost greater or better could have beene given by God. And therefore *Plato* sayd, The *Effluention of words, the Minister of prudence, is of all Effluentions the best and most beautifull*. So that in *Republica literaria*, *deafe* and *dumbe* men never attaine to any degree of honour or respect. Let us see how they are lookt upon in *Foro Civili*, there, there is much arguing about their *Civill capacities*, and many Embargos have beene made of their goods, and those priviledges which belong to a free condition, with many inconveniencies and incumbrances on their estates.

A *deafe* and *dumbe* man cannot be a
F 4 witnesse

witnesse in those things which are perceived by the sense of *hearing*.

A *deafe* and *dumbe* man is incapable of all conventions which require words.

A man borne *deafe* and *dumbe* cannot *Donare*; some extend it to other contracts, but *Alexander* reproveth that extension.

A *deafe* and *dumbe* man understanding nothing, is compared to an Infant.

If a *dumbe* man understand any thing, he is compared to a Pupill.

A *deafe* and *dumbe* man found a Delinquent, is not punished more gently as a Pupill.

A *dumbe* man may enterpose his *command*, if he have understanding, but he cannot interpose his *authority*.

A *dumbe* and *deafe* man cannot *alienate* among the living, for he is like to a *dead man*.

A man *deafe* and *dumbe* by nature, cannot make his last Will and Testament.

A *deafe* and *dumbe* man cannot appoint Executors of his last Will and Testament.

If

If a man be *dumbe* and *deafe* by nature, so that he can neither *write* nor *speake*, he cannot make his Testament; but if these defects be severed, that hee can either *write* or *speake*, he may make his Will, and it is of force. This therefore is to be observed: A man both *deafe* and *dumbe* by nature, cannot make his Will, and although it be made for a pious cause it is not of force; among which causes liberty is numbred: For a Testament made by a man both *dumbe* and *deafe* by nature, wherein hee bequeatheth freedome, is of no value. But if he be not *mute* or *deafe* by nature, and hath learnt to Paint or Write, hee may make his Testament. Yet some say that in making a last Will, there is neede of an *articulate voyce*, and that signes will not suffice.

Sennertus very justly therefore calls *deafenesse*, *Miserandum malum* a pittifull and miserable mischance; for since the Eares are as it were the Portall or entrie of the minde, by which those things are sent into the minde, which are delivered by Doctrine and Institution, for the right managing and transacting our

F 5

life.

life before God and men : that man must needes be miserable who is destitute of the *facultie of hearing*, for hee cannot use the ayde and benefit of *hearing* either to his eternall health, or present safety. They are more miserable yet, who are withall *blinde* : Since they are not capable of the benefit of this Art, or of an *ocular supply* to their *Auricular defect*. But most miserable are they, who are *blinde, deafe and dumbe*. An example of which wretched condition we have in *Platernus* of a certaine Abbot, who being made *blinde, mute, and deafe*, by the malignity of the *French Pox*, could no other way understand and perceive the mindes of others, then by their drawing letters upon his naked arme with their finger, or piece of wood ; expressing some intimation unto him, out of which singly by themselves apart perceived, he collected a *word*, and of many *wordes* a *sentence* ; which how miserable a case it was, and how horrid the punishment of his committed sinne, any one may easily understand. A pregnant example of the officious nature of the Touch, in supplying the defect or temporall incapacity of the

the other senses we have in one Master *Babington* of *Burntwood* in the County of *Essex*, an ingenious Gentleman, who through some sicknesse becomming *deaf*, doth notwithstanding feele words, and as if he had an eye in his finger, sees signes in the darke; whose Wife discourseth very perfectly with him by a strange way of *Arthrologie* or Alphabet contrived on the joynts of his Fingers; who taking him by the hand in the night, can so discourse with him very exactly; for, he feeling the joynts which she toucheth for letters, by them collected into words, very readily conceives what shee would suggest unto him. By which examples you may see how ready upon any invitation of Art, the *Tact* is, to supply the defect, and to officiate for any or all of the other senses, as being the most faithfull sense to man, being both the *Founder*, and *Vicar generall* to all the rest. So that whereas among the senses bestowed upon us by nature, some are *necessarie* to life, others to a happy life; some to neither: without the sense of *Touch* man can neither bee, nor live; without *sight* and *hearing* he may indeed live,

live, yet no way well or happily : *mel-*
ling is neither necessary to a mans being,
nor well-being And that *sight* and *hear-*
ing conduce to a good and happy life ap-
peares, in that they are most necessary
for the acquiring *prudence* and *discipline*.
And although *Aristotle* seemes to have
thought that *sight* did more conferre to
prudence then *bearing* : Yet *Mercuria-*
lis is of another opinion, because he ob-
served *blinde* men to be oftentimes wiser
and more prudent then those that were
deafe. So that he who is deprived of his
hearing, seemes to be at the greatest losse;
and therefore a good *Aurist* is worthy
of double honour.

But most disconsolate is their condi-
tion who are naturally *d-a-se*, and with-
all indocile fooles or mad, of which sort
I have known many: For they commonly
are deprived of the society and conversa-
tion of men, and by reason of their inca-
pacitie and want of understanding, they
are fit for no publique employment, and
they are in vaine and impertinently pre-
sent at any conference or consultation,
their condition in many things being far
worse then that of *blinde* men. In the
Civill

Civill Law, a *deafe* man understanding nothing, is compared to an Infant, and if he altogether want understanding, he must have a Guardian appointed him, it being left to the arbitrimēt of the Judge to determine whether he hath understanding or no, and there are certaine signes nominated by which hee must demonstrate that he is not voyde of understanding. And when it is presumed that he wants understanding, he is interdicted Marriage by the Canon Law.



Observation. VII.

AT the last there was a Priest who undertooke the teaching him to understand others when they spoke, and to speake himselfe that others might understand him. It is somewhat observeable, that a Priest was the undertaker. I know not how but they have beene Inventors of many strange Arts; which yet no great wonder if wee consider their recesses, opportunitie and encouragements to

to study, and all their advantages to promote a contemplative life. And as they say of them who shall be Inventor and Owner of the *Philosophers stone*, that he must have many good and pious qualifications: So he that attempts such an exploit as comes neerer to a true miracle then those of the *magi* did to those of *Moses* (as being an artfull shadow of a supernaturall and miraculous effect which could not bee done but by fasting and prayer) it will bee necessary that he should Priest-like seriously and religiously set upon the worke, since a Heathen would not have attempted such a businesse, without first sacrificing to *Mercurie* for good successe.

He taught him to speake.

In teaching of Parrots and other Birdes that are imitators of mans speech: That man should be the teacher is not the matter, for they will imitate the squeaking of Cart wheelles, or any noyse they heare: but in learning of an *Articulate voyce* so compleat as that of mans is, there is a necessity that man should bee the teacher. For
man

man could not have *discipline*, unlesse from Man, because the *active power* of *discipline* exists in man onely: for as man had the *passive power* of *discipline* granted unto him, so it was necessary hee should have the *active power* also, delivered unto him: And what the *active power* ought to have beene, wee shall finde in the quality of the *passive power*. For, men are chiefly disciplinable, *quatenus*, they have *hearing*, therefore the *active power* must consist in something that may move the hearing, and so effect it, wherefore since sound is the *adequat* object of hearing; Man received a power for forming of certaine sounds, which wee call the voyce, and instruments to the *Articulation* thereof, whereby speech is produced. Indeede the first exercise of this discipline seemes to bee committed unto Women, as being by nature more *talkative* and eloquent, the flesh of whose *tongue* is soft and flexible for the forming of a sweeter voice and *articulation*, for which very cause, their *tongue* is broader, whence it appears by experience that not onely
Birds

Birds that have a soft and broad *tongue* doe sing more acute and better; but men also (especially women) whose *tongues* are softer, are more *talkative*, and also pronounce voyces more *articulate* then men, by reason of the flexibility of their *tongue*, proceeding from the softnesse thereof. Did not all of us, as many as are men learne first to speake of our Mothers or Nurles? Hence it is that *Plato* and *Quintilian* are so carefull in their directions for the choise of a fit Nurse for Children, that the *tongue* and *Speech* may be rightly and distinctly formed: And after the introduction of *Coloines* into Forraigne Countries, have not the Children borne there, receyned the speech of their Mother? Certainly Nature her selfe the *Architectrix* of things, sagaciouly foreseeing what was herein convenient for mankinde, hath allowed Women this priviledge, that they are seldome any where found *mute*. And therefore *Quintilian* sayes, that Children will prove *mute*, if they be brought up by Dumb Nurles. Yet upon what occasion soever dumbnesse may

may happen, there is no certaine judgement to be given of a childs being *mute*, untill he bee three yeares old. But that this Lord born *deafe* and *dumb* : was yet *taught to understand others when they spake, and to speake himselfe, that others might understand him*, and this without a miracle, by the power onely of Art ; seemes to me plainly to contradict that supposed infallible *sympathy* of the *nervus of hearing and speech*, that without controll or contradiction, many Physitians have confidently affirmed to be the onely cause why a man *deafe* from his nativity, is consequently *dumbe* : for it had beene impossible if that Law of *sympathy* had beene perpetually binding, to have recovered *speech* without *hearing* first, for so runne the Lawes of occult Qualities, and the Decrees of the *Median* and *Persian sympathists* ; whereas this Lord having got a paire of *Eare-Spectacles* before his eyes, whereby the dependencie that *speech* had upon the *eare* was taken away : There remained no signe of a sympatheticall league of silence contracted betweene the *tongue* and the *eare* : But the *tongue* set at liberty, proves free, and

and being *sui juris*, leaves the unprofitable *care*, and by Art enters into an *Auditory* league of amity and allyance with the *Eye*, which now officiously becomes a *succedaneum*, or *Quid pro quo*, for the *Eare*. It must bee confessed that the effects of sympathy are very strange, as appeares by rare accidents that have befallen the senses. *Camerarius* not without admiration, beheld *William*, Prince of Orange, who upon the receiving of a wound in his Neck, lost his Taste. And a French Souldier, who by the like woundd became *mute*: for there is a double *nerve* proceeding from the third Conjugation, which is inserted into the Larynx, with one branch whereof, the *tongue* is made apt for speech, with the other Sapours are perceived: That hee should loose his Taste is a lesse marvyle; but that he should loose his speech, who had his *hearing* good and his *tongue* untouched, seemed saith *Bodin* incredible to me before, untill we had found it true by experience.

The Instruments of smelling, have a knowne sympathy with the *Eare*: For wee see very often, that when the nostrils

strils and sense of *smelling* is impaired through a dull obtusenesse, that the *hearing* is also somewhat offended: likewise in sneezing, when we blow our Nose, and in holding our breath in our compressed nostrils, who doth not forthwith perceive his *hearing* and *eares* really to suffer thereupon, Of which (saith *Mercurialis*, in his Epistle to *Varolius*) no man can devise a better reason, then if he should state the instruments of *smelling* to reach on both sides even to the passage of *hearing*, and so should affirme, that the *hearing* is in some sort co-affected with them: And indeed they who loose their *smelling*, doe also very soone become somewhat *deafe*, as you may easily perceive. But whether from this sympathy we may finde any resolution of that Problem, why those who are thick of *hearing* doe speake through the nose, is not yet agreed upon. Although here *Mercurialis* writing to *Varolius* about this matter, sayes, Hee may very well boast, that hee hath hereby layd open a way for the explanation of many doubtfull and obscure effects.

But that there should be such a necessity

sity of this common affection happening to the *eare* and the *tongue*, as it is the instrument of speech, (not yet agreed upon to be a sense) the faire flourish of an unsatisfying sympathy can give little assurance. And I am the lesse affected with this elegant evasion of a *nonplust* Ignorance, because they who become *deafe* through any disease, though their voyce becomes hoarser; yet they doe not consequently grow *mute*: For, that branch onely of the *nerve* of the fift Conjugation, which is appointed for the office of *hearing* hath lost its facultie. And they who become *mute* by reason of sicknesse, grow not thereupon *deafe*, because the other branch of the *nerve* which is accommodated for the use of the *tongue*, is onely affected. As wee may suppose it likewise happens to them who by some extraordinary astonishment and indignation are stricken *dumbe*, as the Wife of *Nausimenes* the Athenian was, who comming in the interim of her Son and Daughters Incest, was so stricken with the sight of that unlook't for, and haynous crime, that she found no words of indignation for the present, and for ever after.

after remained dumbe.

Infer, *Julio Frier Roccus* having observed a Monk to rise every night to pray before the wodden Statue of St. *Dominick*, removed the Image from the Altar, and appareld himselfe like St. *Dominick* with a whip in his hand; the Monk comes to pray, *Roccus* shakes his whipe a little, as t'were threatning: the Monk begins totremble, *Roccus* moves towards him, the Monk flies; *Roccus* followes, the Monk falls down dead: *Roccus* having set the Image againe in its place, runs with the other Moncks unto him and raised him up, who could never sp ak againe and dyed speechlesse after few dayes. This *Campanella* afterward heard of *Roccus* himselfe; The same hapned in *Præmonica*, to a certaine servant going out very early to the Mill, whom one of his fellow servants putting on a strange habit, put into a great fright, as *Campanella* relates the story. *Hortensius* the orator not only crackt his voice with declaming, but by an untimely fate lost it altogether and became mute on a sudden, of whom *2. Sere de Medic.*

— — *Causis confectus agendis*

Obiit.

*Obticuit, cum vox Dōino vivente periret,
Et nondum extincti moreretur, lingua
diserti.*

The Temple which was built by *Iolaus* the Nephew of *Hercules*, unto him, was of so great estimation with the Inhabitants, that if they failed of their wonted devotion in that place, they presently became Mute : and if againe they vowed to perfect their Sacred rites, they recovered their speech. And *Zacharias*, wee know was stricken Dumb by the vision he saw in the Temple, yet neither of these, as we may probably conjecture, were thereupon stricken Deafe likewise.

And that all who are deprived of their *hearing*, doe not therewithall likewise become *Mute*; we have an example among the Chirurgicall observations of *Fabricius Hildanus*, of a Noble Virgin, the Daughter of that stout and most noble man, the Lord *Seib-ry* President of *Blanckenstein*, whom *Hildanus* familiarly knew. This Lady being borne of a mother in a manner *Deafe*, about the eight yeare of her age had a Cathar fell into her *cares*, upon which there followed a tingling sound : who unluckily falling
into

into the hands of an Emperick, about the twenty fourth yeare of her age, utterly lost her *hearing*, and became so *deafe*, that she could not *heare* a Gun discharged by her *ear*; Notwithstanding, she retained her speech, for, not loosing her *hearing* altogether in her infancie, but after she had been sufficiently confirmed, and before instructed both in her mother *tongue*, and in the reading of bookes: being well bred, Religious and well given, she retaynd the Elegance which she had attained unto in her mother *tongue*, and many more discourses to the edification of others. Her husband and some of her Domestique servants, by certaine signes and tokens understand her meaning, and discourse with her; those that are strangers write their minds in a Tabl-booke, which she hath always ready for that use, to whom she returneth answer by word of mouth.

And as writing is in it selfe a permanent speech, so it is permanent to them that become *deafe* through any sicknesse; *Platerus* makes report of a *deafe* man who coming to him to be cured, whilst he stayed with him, when any thing was

to

to be declared unto him, if a Pen or Table Booke were not at hand to note such things unto him (for being learned, hee could very well read what was written) if (in the defect of these) any one with his finger drawing it on the Table, had exprest the figure of letters, he strait understood what it meant.

And indeed so it seldome happens that they who become *deafe* through any disease grow also to be *dumbe*, that the Records of such accidents are very rare among the memorable Histories of Physicke; among which, after much search, wee have met but with two examples. *Fabricius Hildannus* in his Chyrurgicall observations, speakes of a Sonne of the Reverend and most excellent Man, both for learning and pietie, *Joanni de L. Ozeæ*, Minister of the Moretenian Church; whom *Hildannus* remembers to have bin a Boy very well educated, lively, and for his age strong and talkative, untill the eight yeare of his age; at which time, being taken with a grievous disease; he was cured rather by the benefit of nature then of Physique: For, no rational Physician was called to administer unto him, presently

presently after his disease, when by little and little he grew so Deafe, that he no longer understood what any one spake unto him, he became also *Mute*: neither could he to this time, be restored by any remedies; he lived when *Hildanus* wrote this Centurie, at *Morarum*; well enough Married, where he is famous for an excellent Turner, which is the Art he exerciseth, *Hilaanus* was an eye witnesse of this conceited, and crafty wit, which was such, that he understood the minde of those that were conversant with him, at the first sight, by gesture of their body. But this Mutenesse happned not unto him through any sympatheticall affection of the Tongue with his Eare; but by a privation of consequence; for, being at the eight yeare of his age not sufficiently confirmed and grounded in his Mother Tongue, hereupon when he could no longer understand what men spoke, he easily lost that which he had formerly learned.

Platerus hath somewhat the like relation of the daughter of a certaine noble and illustrious Lord, who being 7 years old, could neither *bear* nor *speake*; yet
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could utter a word : being otherwise ingenious and industrious, and who endeavoured with many imperfect offers to expresse words, and to utter an articulate voice ; the whole cause of which evill, *Platerus* (indeed) imputes to the sympathetical league between the conjugation of Nerves, from the auditory Nerve propagated to the Nerves of the Tongue; since the Tongue which for motion and the sense of Taſt, ſtood in need of many Nerves; if there happen any defect to any one branch onely, it cannot effect motion ſo ſufficiently as is required to the pronounciation of ſyllables; although the Tongue may be moved, and there may appeare no ſenſible defect in the motion of it. But he doubted whether this happned unto the noble Virgin from her birth, although they made account that ſhe in the firſt yeare of her age, ſo entertained and applyed her Eares to ſounds, as if ſhe had heard them; Afterwards the Headach which ſhe ſuffered, ſeemed to have occaſioned the enſuing loſſe : concerning her ſpeech he delivers nothing certaine; ſince infants (otherwiſe) by reaſon of their inbecility cannot

cannot speake so soone : yet he thinks it is very likely, that she then lost her speech, when she was deprived of her hearing, which thought of his is undoubtedly unto the purpose.

But as to his charging this upon the old sympathetical account, I am not of his minde, but rather had reckon her failing in the weak inchoation of speech, as a necessary consequence of the privation of the sense of hearing: and her imperfect offers at articulate pronounciation at her seaventh yeare, to be the faint and dying motions of an imperfect and feeble speech: and the green fruite of the lips, nipt in their bud, & perishing before thorough ripe. And in this sense would I understand that of *Mercurialis* in his Prelections of the diseases of the Eare; *Surdi a morbo, quantum sit ratione surditatis non sunt muti, Dico ratione surditatis, qua fieri potest, ut morbus qui facit surditatem, etiam auferat loquelam*, that is, they who are Deafe through a disease, by reason of their Deafnesse are not *mute*; that is simply in as much as they are *deafe*; yet it may so fall out, that the disease which occasions Deafnesse, may deprive

G 2

them

them of their speech also : to wit, if there be *lesio principii*, that the common principle of both faculties ill affected, or by accident, upon the preceding losse of their hearing, as in these examples.

The like (as I am credibly informed) hath hapned unto a Gentlewoman a Neece of Sir *Robert Pyes* Lady who now liveth with her, who having had her *hearing*, and thereby attained to some degree of *speech*, about the second year of her age was deprived of both, by a great sickness that befell her; and remaineth now, being a woman growne, so *deafe* and *dumbe*, that any one unacquainted with the occasion of her losse, would suppose her to have been originally *deafe* and *dumbe*: *Deafnesse* hapning to her in the very initiation of her *speech*, soone obliterating the weake impression of that imperfect language she had then attained unto; for, *hearing* being the sense of memory, that affected, in all probability, the memory must suffer some Diminution with it, which hapned to them both, without any impeachment of their Intellects, they retayning the usuall capacity and understanding of Deafe and Dumbe

Dumbe folkes, and their dexterity in expressing themselves by signes. Speech onely being soone abolished by oblivion, where discourse with others cannot bee maintained ; nor any recruite allowed unto the tongue thereby ; there having never been (as yet) any way contrived by Art to inable men made Deafe by sicknesse, to learne *de novo* , to speake, notwithstanding the impediments of the Eare. This accidentall dumbnesse which those fell into, being of that kind wherein the voyce or rather vociferation or sound indeed remaines, but yet the articulate speech is intercepted, w^h kind of mutenes is by the Greeks called *νοφώσις*, which is found an analoicagly in infants, but properly in those who have lost their speech through some preceding disease.

Riverus a strong *sympathist* in this point, would have the reason thereof to be evident , seeing they who are *deafe from their Nativitie*, if they had not the *instruments* of their speech vitiated, they would bring forth an *articulate voice* out of a naturall instinct, as other Animals doe, although from their Nativitie they should be seperated from other Animals

nimals of the same species, that they could never heare them, yet they would bring forth a voice that is Connaturall unto them. But they (saith he) who are *Deafe from their nativitie* utter no *articulate voice*, but onely a confused sound, which argues a manifest lesion of the *parts* serving to the *speech*: for answer whereunto, I confesse it may so fall out, that cause which deprives the *ear* originally of its *hearing*, may also take away the faculty of speech from the *tongue*; yet in most *deafe* and *dumbe* men that I have seene, I cannot perceive but that they have those few naturall expressions which proceede from the instinct of nature, which are rather passions of the minde, then any significant sounds that properly belong to any Tongue or language: such as is the interjection of laughter, as ha ha, he, of sorrow, as ha of weeping, as oh, of crying out for aide, as O, although it may be they utter them not altogether in so plaine a tone as they who enjoy their speech.

Neither if any man be *originally dumbe*, is there any reciprocall necessity that he must be *deafe*. Hence *Ioachim* *Myn-*

(fingerus)

fingerus in the Scholiast upon the Institutions, Stating the *four* cases of *deafe* and *dumbe* men saith, *Si aures aperte sunt, lingua vero impedita, sive ex accidenti, sive novercante natura contraxerit, &c.* Which words imply, that one may be *dumbe* from their Nativitie, and yet injoy their *hearing*; *Arculanus* upon *Almanzor*, raises a doubt, whether the number of *dumbe* or *deafe* men be greater? to which it is replied, that there are more *dumbe* from their Nativitie, then *deafe*; for, all that are *deafe* are *dumbe*; because through their defect of *hearing*, they cannot learne how to forme letters, syllables nor words; *dumbe* men being *dumbe* from their Nativitie, by reason of some defect in the *nerves* moving the *tongue*, which come from the *seaventh* paire of *nerves* of the *Braine*: who yet notwithstanding are not *deafe*, there being no defect exilient in the *fist* paire of *nerves* of the *Braine*, and in the other Organs and instruments which serve to *hearing*; whereas, *ex tempore*, there are more *deafe* then *mute*; for we see by the course of Times and causes occuring to sick men, that the *care* is oftener hurt then the

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tongue;

tongue; for nature was very carefull to furnish the *tongue* with *greater nerves* and *Arteries* for the *Tasts* sake, without which man can not long subsist; the Tongue moreover being lodged in a safer place, inclosed in an immured den, whereas the *eares* are more obnoxious by their scituation to be endamaged by extraneous occurrents. *Fontanus* puts the question, *An muti fiant loquaces?* and he affirms by way of answer, that he saw this verified in *Zacharias* his foole; about which accident he writes to *Lusitanus*, desiring an explication of that wonderfull example. *Zacharias*, saith he, a foole Orphant, who would be angry at the motion of the Moone, Lunatique and *mute*, three months before his death, fell into a Consumption; and when he was wasted so farr that he drew neere death, he *spake freely*, gave thanks to me and the standeres by, for our undeserved favours to him, yea kissed my hand before I felt his Pulse. This man in his right wits, departed godly out of this life. To which prodigious History *Lusitanus* returns in answer, that it had neede of a Coon or Pergamean *Oedipus*. But, saith he,

he, That men should have an impediment in their voyce, and become *speechlesse* and *mute*, by reason of Copious humidity tenaciously infixed about the organs of the voyce, is no new thing; since many destitute of *speech* in their youth, in the progress of their age, (by the helpe of Art) have been made vocall, the excrementitious moysture being wholly spent. If this saith he be true, which I take to be most certaine, what should hinder but that our sick man who remained *mute* so long, his body consum'd, and the superfluous moysture by the force of the torrid and feaverish heate exhausted, should *speake*; his vocall organs being made more fit to performe that office?

And *Valescus de Taranta* affirmes, that many children who had impediment in their speech, have been restored by their Adolescencie. *Mercurialis* reports of *Maximilian* the sonne of *Frederick* the third Emperour, that he was *dumbe*, untill the ninth yeare of his age, and yet notwithstanding afterwards he proved a most eloquent Prince.

There are stories extant of certaine *dumbe-men*, who by reason of some ex-

traordinary fright and passion, have received the gift of speech. *Valerius Maximus* reports, that one *Aegles Samius* a dumbe wrestler, when the title and reward of a victorie he had obtained, was taken from him, being kindled with indignation, his passion unlockt his Tongue, and gave him speech.

Iustin, and *Herodotus* report, that when the walls of *Sardis* were taken by an onslaught, a certaine *Persian* with his drawn sword set upon *Cræsus* unknown unto him, as if he had meant to slay him, whom when *Cræsus*, engaged in the slaughter of the enemy, neglected to avoyde; his dumbe sonne *Aibys*, deeply apprehending the danger his father was in, is said to have broke out into these words, ὦνδρωτε ἡν χλῆρε Κεῖσόν, i. e. *homo ne perimas Cræsum*, where ὦνδρωτε as *Piscator* observes, pathetically shewes the affection of a troubled speech, not a little encombred with feare; for when he should have said ὦ ἡνδρωτε, his feare and indignation precipitating his speech, made him say ὦνδρωτε. And from this first time of his speaking, he ever afterward enjoyed the benefit of speech. *Pausanias*

Sanias reports that one *Balthus* a dumbe man, wandring up and down in a Desert, met with a Lyon, and was stricken with so exceeding great feare and trepidation, that thereupon he obtained the guift of speech. And in this case they must be *frighted* as well as *angred*: for, a mixt passion which causeth a Miscellaneous motion of the native heate, is onely efficacious in this businesse; for the conflict that ariseth out of both these passions mixed, to wit feare and *anger*, hath unequal motions of the native heat, for it is *revoked* and drawn in by feare, and the Animal faculty moves to its center: and againe by *anger* it is plentifully moved in the way of *expansion* to the circumference; so that the native heate is variously mixed and exagitated, more then it could be affected with one of them alone. The native heate becoming hereby more vigorous, and rowzed up with these affections is so prevalent, that it is able to tame the vitious humours of the body, and to drie up and discusse the over much moysture, & imbecility that ariseth from the importencie of native heat; and if the Nerves of speech are resolv'd with much moysture,

moysture, or the heads of the Nerves by which the voluntary motions of speech are performed, are filled with thick viscid and tough humours, to dissipate, attenuate, cut, digest, and breath them out, and so consequently take away *Stammering* or *Dumnesse*. Hence your Civil Lawyers, whose Pandects are stuffed with the subtile notions, and observations both of Natures regular Acts, and Prevarications affirme, that some who have been *mute* from their Nativity, have recovered their speech; and indeed the manner of their recovery, and assumption of speech is very strange, for if their *eares* have been open, and the impediment only in the *tongue*, that removed, they instantly fall to *speaking*, as if they had perfectly learnt it before: which inference I make not onely from these Histories, and reason, but somewhat a like case in *Campanella*, who reports, that he saw a Boy foure yeare old, who had always fetid filth, and supurations in his *eares*, neither was he yet able to *peake*. He was thought *dumbe*, yet he heard a voyce and sound, and tooke in hand to doe what he was commanded; but there hapned unto him chole-
rique

rique, and watry dejections for the space of three daies , and forthwith his *eares* were healed , and he began to speake well as other Boys of the same age , and so proceeded to a greater perfection of *speech* , being when *Campanella* writ this relation seven years old ; therefore sayth he, there are also naturall Criseses without any disease ; for he was otherwise well, and had a very good stomack, and purgation , especially if it be naturall , takes away all mischievous evill of nature.

He was taught to speake In this case of most *deafe* and *dumbe* men where the tongue is commonly free from any impediments , as this young Lords, it seemes was ; if any speech had beene naturall to man , why did not hee speake without teaching ? or why do not all *deafe* men whose *tongues* are not restrained by nature from voluntary motions sufficient to declare such a faculty , without teaching come out with it ? the most unanswerable argument against the naturality of any *language* is this , that they who are naturally *deafe* speak not at all, from whose force once alledged there

the Hebrew, which could in no wise be, for all things are spontaneously carried to that which is *naturall* unto them, so that *speech* doth not appeare to be compacted, or performed by nature, but by use and custome; otherwise as all Nations are of one and the same *nature*, they would have the same *speech*; whereas there is no such matter, but rather it is manifold as custome hath made it current: *naturall* indeede it is to man to *speake*, because nature as we know by the very formation of the mouth, the *tongue*, and other instruments hath ordained them to this use; but to use *this or that speech*, falls out by study and learning, and even the very *Idioms* proceed from use, and a tacit consent of men: besides those 70. which arose at the Tower of *Babel* in the division of *tongues*, of whome God would be the Author and teacher; not that they, rather then those that grew extant by use had any cognation with nature, but that for a short and expedite distribution of Nations, it was expedient there should be many *tongues*: but God made choice of those that pleased him: therefore since nothing

thing could be more profitable nor pleasanter to the life of men, then reciprocally to communicate their cogitations one unto another, neither any thing more naturall then the desire of knowledge and science, which is purchased by *teaching* and *learning* and to *teach* and *learne* happens, no otherwise then by communicating the conceptions of the mind: by the very impulse of Nature, man is carried unto speech, because there is no choicer or easier way can be thought to innuate or declare his minde; therefore men first found out speech, whereby they might in words signify the conception of their minds.

The language this *deafe* and *dumbe* Lord was taught to speake, was *Spanish*, it being the language of the Country wherein he was borne, which should have been his *mother tongue*, but could not so properly be called in him, who had attained unto it, By such a new way of *ocular audition*, which as all other language hath so little of Naturality in it, that by disuse it may be utterly lost: of which the honourable Relator of this story, in his Treatise of bodies, affordes us a notable

able in one *Iohn* of *Leige* who driven by an extreame alarum of feare from the apprehension of approaching enemies into a Forrest for shelter, being there lost, continued so long, that he had quite forgot the use of speech; insomuch as when he was found, he was faine to be taught how to speake againe; whereas if his language had been naturall, it could not have been forgotten or lost by any disuse.



Observation. VIII.

FOr which attempt at first he was laughed at, yet after some yeares he was looked upon as if he had wrought a miracle. The attempt to bring reliefe to men borne deafe and dumbe, is a thing so far beyond any mans conceite, that they looked upon him as some *Utopian* Montebanck, who first pretended to this Art: a simple pride, and a shallow fate, having been ever the Nurser of Ignorance, which is the cause of scornefull laughter; many men

men being of that temper, that because they cannot conceive how it can be done, therefore it cannot be done, as if all invention were limited within the narrow spheare of their capacity. *That he was lookt upon as if he had wrought a miracle,* shewes that the opinion of most men is, that *Originall deafnesse and dumbnesse* is not curable but by miracle, it having never been done by any other then the Divine Art of miracle-working faith.

And thus we reade in the Gospell of *St. Luke*, of one that was possessed with a Divell, being *deafe, blind, and dumbe*; for *St. Luke* makes him *dumbe*, *St. Matthew* *blind*, and from his Dumbnesse those that comment thereupon, infer his Deafnesse; *Chrysostome, Tertullian, and Hieron* say, That the word *Cophos* signifyeth *dumbe* and *deafe*, and some interpreters translate it in the seaventh of *Marke*, *surdum et mutum*; To *Tytus Bostrensis, Lyra, and Euthimius*, it seemeth that he was not *deafe*, for that his *dumbnesse* not being Naturall, the Divell might make him *dumbe* but not *deafe*, leaving him his *hearing* for his greater torment. *Fonseca* observes that he being
both

both *blind* and *deafe*. Saint *Luke* makes mention, that he was onely *dumbe*, which he purposely did (as *St. Austin* hath observed) to signe out unto us the greatest ill that could befall him. The words of *St. Luke* are thus rendered, *Et erat Iesus ejiciens Dæmonium, et illuderat mutum*, Iesus was casting forth a Divell; this word *erat* implying the difficulty of getting him out, as also the long time of his continuance there; for Christ did not presently cast out this Divel, but stayed, paused a while upon the matter; shewing thereby, that it was not so easie a thing to be done as some thought it to be, but rather full of difficulty. And when the Divell was gone out, the *dumbe* spake, which when the multitude heard, they marvelled, saying, it was never so seen in *Israel*; insomuch as some of them whispered among themselves, that he was the Soane of God; and the good old woman *Marcella*, blessed the wombe that bare our Saviour, and the Paps that gave him Suck. When our Saviour had cured this man, who upon his enquiry of them who brought

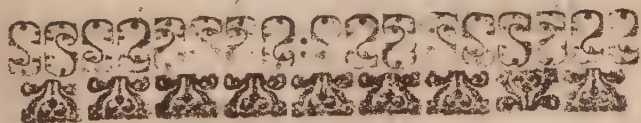
brought him, He found to be have been to possessed from his childhood; the Apostles asked *Iesus* privately, why they could not cast him out? Who answered them; that that kind would come forth by nothing but Fasting and Prayer. In Ecclesiasticall Histories we reade of one *Theodimianus*, a young man both *deafe and dumbe*, who was wont to stand at *St. Martins Church*, moving his lips onely, who did seem so promptly to pray, that he was seen to let fall teares sometimes between his stacc words, craving almes by his gesture; this youth standing with his eyes lift up to heaven, there burst out a streame of bloud with rotten matter from his mouth, and spitting it out upon the earth he began to groane grievously and to haue out I know not what parts of blood, insomuch as one would have thought some body had made an incision in this throate with an instrument; and purulent matter like bloody threads hang down his mouth; whereupon the ligaments of his *eares* and *jawes* being broken, elevating himselfe, and raising up his hands and eyes

eyes to Heaven with his mouth yet bloudy , he broke out into these his first words : I returne great thanks unto thee most blessed St. *Martin* that opening my mouth, thou hast made me after so long a time of silence deliver words in thy praise. The people admiring at this miracle , asked him if he had also recovered his *hearing* , who professed openly to them that he heard all things very well.

The like miraculous reception of *speech* (in all the circumstances) hapned to a *dumbe* man in the Monastery of *Schwartzachth*, as appears by the Chronicle of the *Urspergensium Abbats*.

It is reported also by Ecclesiasticall writers. that one *Anagildus* who was both *deafe* and *dumb* and *blinde* was restored to all his senses , whilst he prayed unto St. *Julian* : The like is reported of St. *Bernard* , who returning upon a time to his Monastery , cured one both *deafe* and *dumbe* that stood at the Gate. *Riverus* in his medicinall observations affords us a strange example of a Boy both *deafe* and *dumbe* , who was cured by a *mischiefe*, or a *chance-medley miracle*, who upon a
time

time, playing at dice, was struck with a big staffe, with which most grievous blow his *occipitall bone* was broken into many particles, of which dangerous wound, notwithstanding by the industry of a skilfull Chirurgion he was cured. And while he grew to be well, his sense of hearing came to him, and he began to stammer out certaine little words, untill at length hee attained the perfect faculties of *hearing* and *speaking*; and in that condition he lived untill the forty fifth yeare of his age, having been scarce two yeares dead when *Riverus* recorded this Historie.



Observation. IX.

That strange patience, Constancy, and paines was required to the effecting of this worke, any one would imagin, since great matters are not soone atchieved; it seemes it was *ast. r some yeares*, before he who for his undertaking of it was

was laughed at, was looked upon as if he had wrought a miracle: which is no disparagement to this Art, since *speech* is not attained by Infants but with many difficulties, and essayes, after some yeares; and, even writing, which is but the image of *speech*, before it can be learnt in any perfection by them who have all their senses, usually takes up many of our youthfull yeares.



Observation. X.

That he should be brought to *speake as distinctly as any man whatsoever, and to understand so perfectly what others sayd that he would not loose a word in a whole days conversation*, sheweth the wonderfull perfection of this Art. that he should observe the accent, and terminations of every word, not hearing himselfe, is very strange: But the last is most strange and difficult, even to them that have the just perfection of all their senses; for who would undertake in a whole days discourse

course not to faile in understanding, or misse one word of what another sayd unto him ? which manifestly shewes that Nature doth pay any defect, by recompencing at least twofold. How he was brought to speake so exactly (this naturall Deafnesse remaing upon him) is worth the enquirie ; for to imagin after what manner the words *seene* (or as we use to speake) *heard* with his *eye* were transferred to *pronunciation*, and againe to the *intellect* ; is the greatest difficulty in this businesse ; we will suppose this *transmutation* was not performed without a necessary *junction* between those words *seene* and the *habit of moving the vocall Muscels* : and it manifestly proves *motion* and *articulate sounds* to be one and the same thing. In children, indeed, who have all their senses, this *transition* is made as well by *sight* as *hearing*, when they are instructed before they can understand ; for out of the *Phancie* of the thing *see* they may come through into the Phancie of the *sound*, by joyning the vision of wordes seen in their Horn-books, to the *representation* of the *sound*. It being wel known unto us, that boys when they

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learne

learne to reade, they bring forth a voyce out of a *sound*, and that is the reason why those who are Deafe by Nature, are necessarily *mute*.

For although boyes do not conceive of or comprehend the *sound of words*, yet hearing they learne to know: and although *wordes* are not understood by an Infant, yet this *Cognition* which consists in *sight* and *hearing* is proper to them; for, man hath understanding, as it perspicuously appeares, even from his first Infancie, because he learneth. Now how his understanding was framed out of *words thus seen or heard*, might be after the same manner as out of *writing*, which is also a kind of *visiblle speech* permanent as the *motions of the mouth*, are a *transitory speech*; for, *vision* is made out of *sence*, *joyning* out of *vision* out of many *joynings* a *generall comprehension*, out of a *generall comprehension*; an *universall proposition*, out of an *universall proposition*; that kind of *joyning* which is called *reason*, when one thing is inferred out of another, is the understanding made; so that as *Cardan* subtilizeth the matter, there are *several*
order

orders of Sences. The Exterior, Phancie, junction, memory, generall comprehension, Vniversall propositiō, and the vniversall it selfe which is the property of the mind : so that what kind of motion went in by the sensory or organ of sence, (be it Eare or Eye) such as it were from one and the same effigies of motion, was returned and pronounced by his voyce; and what he thus seeing heard, he learnt to speake the same.

But indeed as the *Verulamian* Oracle of human learning notes, it is a thing strange in nature when it is attentively considered, how children learne to imitate speech: they take no marke at all as he thinks, of the *motions of the mouth* of him that speaketh, for they learn in the dark as well as in the light, the *sounds* of speech are very curious and exquisite, so one would thinke it were a lesson hard to learne; it is true, that it is done with time and by little and little, and manny essayes and prof-fers: but all this dischargeth not the wonder. It would, saith he, make a man thinke (though this which wee shall say will seem exceeding strange)

that there is some *transmission of spirits*, and that the *spirits of the teacher* put in *motion*, should worke with the *spirits of the learner* a *predisposition to offer to imitate*, and so to perfect the *imitation* by degrees; which operations by the *transmission of spirits*, is one of the highest secrets in nature. But as for *imitation*, it is certaine, that there is in men a *predisposition to imitate*, for, no man (in effect) doth accompany with others, but he learneth (ere h^e is a ware) some gesture or voyce or fashion of the other. But labour and intention to imitate voices doth conduce much to *imitation*, and therefore we see there be certaine *Pantomimi*, that will represent the voyce of Players of enterludes: so to life, as if you see them not, you would thinke they were these Players themselves, and so the voices of other men that they heare; and indeed as he saith in generall, so in this particular case, men are to be admonished that they do not withdraw credit from the operation by *transmission of spirits*, and force of imagination, that worke such strange effect at distance, by the *transmission of spirits*.

mission of the spirituall species of words: we will therefore suppose this strange effect to have been produced by the transmission of spirits.



Observation. XI.

T*His learned Relator it seemes had often discoursed with the Priest, whilst he waited upon the Prince of Wales (now our dread Soveraigne in Spayne) and he doubts not but his Majestie remembreth all he hath said of him and much more: for his Majestie was very curious to observe and enquire into the utmost of it.*

This miraculous atchievment of Art, was not performed in a corner of the world, but in the imperiall City of Madrid, and in the face of the Spanish Court: and so consequently there have been many honourable persons witnesses of the strange effect of this new Art; among the rest it seemes, it was honoured with the enquiry of his Majestie, when he was (being then Prince) in Spaine; and indeed the subtilty of this Art was worthy of the Curiosity

riosity of a Prince; It being likely his Majestie (who is knowne to be an excellent Morist, as his judgement in Pictures and Statues witnesseth: and who was ever vigilant for the advance and security of government) might apprehend this Art possibly to be translated to a use of State, and to the advantage and improvement of king-craft; thereby to discerne the Trayterous motions of in-choat Treasons in muttering and discontented subjects; and verily in this respect, it is a secret treasure worthy of a Royall Cabinet.



Observation. XII.

O*Ne great misbecomingnesse (it seemes he was apt to fall into, concerning the tone of his voice, whose pitch he could not readily governe, but it would be sometimes higher, and sometimes lower; which it seemes was not, but upon his first entrance upon his speech, where earnestnesse to speake, made chance Arbitrator of*

of his voyce ; for otherwise, what he delivered together , he ended in the same Key as he begun : so that I see not but this which seemes to be the onely defect this Art cannot remedie, might by his observation have been rectified ; but perchance he was not come to that point of perfection ; for if he could discerne the pitch of anothers voyce , and know it to be the measure of that motion that appeared to him : one would thinke , with little difficulty he might have made that note his copie ; yet were not this possibly to be remedied , because he heares not himselfe ; it were not so great a blemish to this Art, since many men who have their hearing cannot moderate their voyce ; and *Gracchus* was forced to use the pipe of a Moniter to tune his, when *Earnestnes* had transposed it out of all moderation. And they that are but Surdastri, because they heare not themselves, are guilty of speaking unproportionably loud : his error in this point was not so great as to destroy the *audible articulation* of his voyce , for had his voyce in other distinct kind been drawn *extreame small*, or *extreame great*, it could not have

been *articulate*, for, as the advancer of Learning faith, *articulation* requireth a *Mediocrity of sound*: for that the *extream* small sound confoundeth the *articulation* by contracting; and the great sound by *dispersing*. And although a *sound articulate* already created, will be contracted into a small crannie; yet the the first *articulation* requireth more Dimension: we doe not heare of any other misbecomingnesse, or that he spake through the Nose, as Deafe men usually doe; which *Aristotle* imputes to their vitiated lungs, which compells Deafe men to utter their voyce vehemently, whereupon their voyce breakes out at their Nostrills. And so Deafe men speake through the Nose; But it seemes this affection is more peculiar to those who are *accidentall deafe* through some disease; and therefore I like the other cause of Deafe mens *speaking through the nose*, which *Cassius* gives us in his Problems; which is, that through that disease which makes them Deafe, they are constrained to dilate their Nostrills, whence they dilated, the breath of their voyce, breakes out at their Nose.

Obser.



Observation. XIII.

He could yet discern in another whether he spoke shrill or low; which property he could not have had but by vertue of the Naturall knowledge all men have at first sight of the passions and affections of mens minds, and by the same rule that we understand the articulate language of Beasts, whose gesture, when there is a doubt of the sence, affords a solution of their severall tones.

Now *Skrillnesse* being a note of the *earnestnesse of speech*, though he understood it not by the Audiblenesse of the tone: yet he might manifestly perceive it by the *extraordinary motion* required to such a pitch of the voyce; for then the *Larynx* is drawn upward as we may evidently perceive in our selves whē we frame our voyce acute: whereas we may note, that the *Larynx* is drawn downwards, when we would speake in a grave and base tone. Therefore besides the

Muscles shutting & opening by degrees the rift of the *Larynx*, the rough arterie which they call the *pipe* of the lungs was made of many *cartilagineous rings*, not quite round, but figured after the manner of the letter C interwoven with a spherical membrane; so that the *Larynx* drawn upward the compas of the membrane by reason of the distraction is coarcted, & the extreame parts of the Rings come nearer together, and the whole *pipe* is made streighter; whereupon the little mouth of the Throat being streined in, the breath being strongly expel'd, issues forth with so great a force, that the collision thereof produceth an *acute* voyce: but when the *Larynx* descends, the rings and the *pipe* are dilated, whence the cleft of the throat being more widened, by a lighter emission and collision of the breath, the voyce is made more *grave*. Hence it is that singing-men in rising with an *acute* voyce, doe alwayes more raise up their head, and come to a *prohibited expiration*, which declares the *Larynx* to be both raised upwards and obstructed; descending in a *base* voyce, they incline their head, and at length come to *expiration without*

a voyce, which demonstrates the *Larynx* to descend, and the clift thereof so to fly open, that it no way resists the breath in its passage; of which if you desire to have a sensible assurance, lay your finger on the outside of your throat, and you will soone be satisfied in the truth hereof. Now these are not don witho ut motions of consent in the Face and Neck, for, the *veines* in *shrillnesse* swell, which denotes some heate of passion, which Deafe men naturally understand better then wee; hence it is that the *Apbricans* who are exceeding *cholérique* speake alwayes with an angry and loud voyce, and the *Egyptian* Moores are very shrill Tongued; But in a calme and moderate speech there appeares none of these notes, which are not required to a naturall and midlin temper of discourse.

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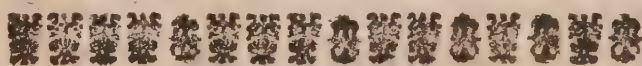
Observation. XIV.

A Nother strange acquired property was, *That he could speake and repeate after any body any hard word what-soever*

soever what ever language it was of; for he was hereby made a generall Linguist, which necessarily implyes these outward motions of speech, to come very neere to the nature of an universall character, they being naturall and universall; maintaining their Figure which springs from the pure Naturality of the letters whereof all languages are compos'd; for although the words of languages are from a mutuall compact: yet the letters, whereof those wordes are compos'd, are Naturall, and the lips disposition to the forming of them, keepes out any other. The rising of later Tongues is from the mixture of Tongues; but this of motion regulated by the letters which are naturall, admits of no mutation by Age, but remains uncorrupted, and so will remaine pure, as long as there are lips and a tongue to articulate; for, no man shall be ever able to foyst in any irregular and suborned motion, any way to alter the universall forme and property of their pronounciation. I have heard that the King at his being there among other hard words where-with he tryed the certainty of his ocular audition, named Artaxerxes, which he easily

easily perceiv'd & return'd. And indeed if we consider the way he was taught, and the skill he attained in the *Formes of Letters*, from whose *Transposition* onely proceeds the infinite variety of languages; it was not more difficult to him then to discern the language he was taught; for, *articles* in the *speech* of man are *letters*, out of which, as out of its first elements, all *articulate* voyces or speeches of what language soever were made, to wit *syllables* are made of *letters*, words of *syllables*; and at length of *words spoken* oration or speech results; whereof all perfect and consummate speeches are constituted, and discourse and communication maintained among all Nations, though of never so different languages. But since in those Tongues we understand not we are all Deafe and dumbe, the quære is, whether he spake those *hard words* with his *understanding*, or onely by a bare imitation? For, I doubt he understood onely the received signification of those *worded motions* which are used in the language he was taught; somewhat like them (if I may so speak by allusion) in the Primitive time, who had the gift of *strange tongues* which

which they understood not , so as to interpret whereof St. *Paul* speaking. I had rather, saith he, speake two wordes with my understanding , then many in a strange Tongue , yet you may hereby see , how apt this Art is to imitate miracles.



Observation. XV.

HE could perfectly eccho and expresse wordes in a high manner of exact imitation of the genuine Pronunciation of any language ; Nay even of those which imploy much the gutturall letters, as the *Welsh* and *Hebrew* doe , which when the Prince of Wales had tryed often by making some *Welsh-men* that served his Highnesse speake words of their language the *Relator* who was present at the tryall, confesseth he more wondered at that, thē at all the rest; because the motions of that part which frameth the gutturall letters, cannot be seene or judged by the Eye, otherwise then by the effect they may hap-

happily make by consent in the other parts of the mouth exposed to view.

The difference of *Pronunciation* with divers nations is a subtlety worth the enquire; *Cardan* among those things that put a difference among men, and such a diversity as sets them at a distance, reckons the *tongue* or language, neither is there any other thing wherein man differs more from man; for whereas all other animals with the same voyce demonstrat the same affections: man is no more understood of man, then a Swallow is of a Lion; man indeed hath but one voyce, but there are many kinds of speaking; but what diversity of pronunciation there is, he confesseth he is scarce able to number. But there are six simple kinds; from the *mouth*, & these hisse as it were; from the *tongue* within the *teeth*; from the *tongue put out*: and this is twofold, as it is in the Lips, and in the Palate: from the Throatē, and from the Breast; all which differences, almost, we may see in *Italy*; for, the *Florentines* pronounce with the Throatē; for, the *Florentine Dialect* of of the *Italian* is a little more *gutturall* in the Pronunciation, then that of *Sienna* and
that

that of the Court of *Rome*, which occasioned the Proverb: *Lingua Toscana in Boca Romana*, the *Tuscan* Tongue sounds best in a *Romans* mouth. The *Venetians* with the Palate, the *Neopolitans* with their Teeth, and the *Genuefsians* with their Lips: or according to *Isidors* general comprehension thus: all orientall Nations knock together their Tongue and words in their Throates, as the *Hebrews* and *Syrians*. All Mediterranean Nations speake in the Palate, as the *Greeks*, and *Assyrians*; all occidentall Nations break their words in their Teeth, as the *Italians*, and *Spanyards*; All which may be supposed to happen by reason of their choice and frequent use of those letters in their language, which are *gutturall*, *palatiall*, *dentall*, or *labiall*; Therefore the originall roote of the diversity of languages, is well estimated by a moderne Author, to consist in this, that words are compounded of *vowells* and *consonants*: moreover the difference of *vowells* arise from the greater or more *configur'd* apertion both of the Mouth and Throate. And the *consonants* out of the interception of the breath going out by the organs of
Teeth,

Teeth, lips, tongue, by their allision to these, and the *pallate*, with some helpe of the *nostrils*, and *occlusion* of the *throat*, and it is apparent that these members and instruments of the voice, are compounded of the Elements, and which follows, by their temper to be more disposed to one then to another motion; and this happens according to the scituation of the Regions wherein men live, to be more inclined to some *vowels*, or *consonants* then others: whence it comes to passe without any further worke, *vowels* and *consonants* were by little and little changed, and such a diversity ensued, that men no more understood one another: and this might happen without *confusion* of *tongues*, of which (according to some) there is no very firme ground in the sacred text; for whereas they were at *Babel* of one *lippe* and word, it is thought to imply no more; but that they were all of one *minde*, and resolved to remaine united together; so that there needed no more to confound their *tongues*, then to disperse them into severall *Countreys*: and because divers Nations are affected
after

after a diverse manner, and have a peculiar manner of expressing the Ayer : the *Germans* speake with a kind of *impetuosity*, the cold retruding their breath, and therefore they pronounce many letters *consonants*. The *Venetians* many *liquids* and many *vowels*, because they dwell in a *liquid Countrey*. The *Spaniards* *prolix voyces* with *vowels* and hissing spirits, out of the heat and acumen of their Region. The *Italians* in a midling climate in a meane betweene both : now although the *naturall Letters* by their *transpositions* are able to expresse any language agreed on by the inventive constitutions of men ; yet all *tongues* are not necessarily tyed to take in all the *Letters of natures Alphabet* ; for the language of *Cuzco* wants B D F G J. consonant, and single L, and makes shift with the other naturall Letters. B is not used by the *Chinoyes*, and the *Tartars* cannot pronounce it, and the *Chinoyes*, as it is sayd, cannot pronounce R. The *Brasileans* cannot pronounce the Letters, L. E. R. the reason whereof one being demanded made answer, because they had amongst them neither Law, Faith, nor Rulers ; yet a more

more Philosophicall cause might be found out: for, that the *Chinoyse* nor *Brasilians* can pronounce the naturall Letter R, is not by reason of the altered figure of the instruments belonging to *speech*; for, those parts which conspire to *speech*, are the same in them as in other men, nor by reason of the substance, scite, progresse of vessels, or the hurt of their originall; because the same substance of the instruments appertaining to *speech* is preserved in them as in others who have not this impediment; the same progresse and scite of particulars, and the selfe same beginning of instruments; neither doth this happen to them by reason of the moist temperature of their head or *tongue*, and other parts conspiring to *speech*; for their hard Heads declare them to be of no such temperament: the specificall cause of their naturall indisposition to the pronouncation of this Letter is, either their over many, or more, and different scituation of pores existent in the instruments appertaining to *speech*: now the instruments appertaining to *speech* are the Lungs, the rough arterie, the larinx, the *tongue*, the pallate teeth, and

and lips ; in all which instruments there is none of the above numbred conditions observed in them, which are not exactly, seen in those who speake most perfectly ; besides that difference which consists in passages or pores : therefore it is certaine pores that occasion this impediment , and it is in them an affection in conformation and no way in distemper ; for there are in the midle region of the pallate , that is in the fourth bone of the upper jaw , two holes which are not found so open and obvious in those who are without this affection: those two open passages being the imediate cause of this their impotence to pronounce the Letter R. nor were it impossible perchance to assigne a specifique cause of the *Brasileans* inability to pronounce L. and F. and the *Tartarians* inability to pronounce the Letter B but peradventure that might be as prepostrous a worke, as to assigne a cause to the golden Tooth.

Wee neede not all the Letters in our Language, and lesse of them in speaking then in writing : many Northerne Diablects have rejected some of the naturall Letters , as B. G. D. V. *consonant* which

is

is thought to have happened through the nature of the Region , propriety of the *Idiom* , and strength of men , together also with custome , which is that they might perpetually speak with vehemency adhibiting every where a kinde of impetuous force in speaking , which cannot be done without a vehemnet exsufflation ; hence necessarily usurpe P. for B. F for V. *consonant*. T. for D. C. for G. the cause of which vehement exsufflation is no other then that which is aledged by *Gallen* in these words : the *Celts*, and all kinde of *Thracians* and *Scythians* have a soft white skinne without haire , therefore their naturall heat together with their bloud , flies back into the inner parts ; where while it is agitated, pressed, and growes hot , they become couragious, bold, and of a precipitate judgment, therefore the internall heat boyling, excites a valid *respiration* , and this causeth a valid *exsufflation* , and this powers out a vehement voyce : hence comes rushing forth *letters* which are formed with a vehement force of the breath, that for B. it thereby becomes P. for G. C. for D. T. for V. *consonant* F. for Northerne men

men who are strong and have a strong Tongue, they choose and utter more stronger *letters*, that is, those to whose *prolation* both a stronger *tongue*, and *insufflation* is required, whence their *Speech* seems to be more *rough*, and *rigid*: for they that inhabit cold Countreys, have a *tongue* correspondent to the rest of their actions: therefore they are vehement; *rigid*, severe, and couragious; whence *Charles* the fifth Emperour was wont to say, that the German *tongue* was military: and therefor if he were to threaten, or speake more roughly to any, he would use the German *tongue*, because that *tongue* is minatory, harsh, and vehement: whence a Moderne sayes of the Germans, that they have a full mouthed language, and that they speake as if they had Bones in their Tongue instead of Nerves. Note that in all these *varieties* of *Pronuntiation*, the *Letters* which constitute words, are made by the same *motions*, but that they admitted more of some Letters then other into their Idioms, hath happened through their Different Exsufflations. There are also some strange kinde of pronuntiations, with divers Nations, which

which I take to be rather *afflictations*, then ensuing upon the former recited causes. The people in the Bay of *Soldania* have a *chattering* rather then a language, their words, for the most part, are *inarticulate*, and in speaking they clocke with the Tongue, like a Brood Henne, which *clocking* and the *word*, are both pronounced together very strangely. In *Mexico* their language, especially used by Theeves and Lovers, is a kinde of *whistling*, whereby they understand one another.

They of *Guinea* when they *speak*, they put out their neckes like Turky Cockes, and speake very fast. The generall language of *Peru*, hath three maner of pronunciation of some sillables, in which variety of Pronuntiation, lieth the different signification of the same word. One way in the Lips, another in the Palat, and the third in the Throat. The *Catayans* speake much through the Nose. That which was wondered at most of all was, his discerning the *Gutturall motions of the Welch Pronuntiation*, because the *motions* of that part could not be *seene* or judged by this *New-taught-Hearing Eie*, other-

otherwise then by the Effect those Motions might happily make by a Motion of Consent, in the other parts of the Mouth exposed to view. Certainly, it must bee confessed, that those languages that use most the *Labiall Letters*, must necessarily be the most remarkable and easie to discern, and they that much use the Gutturall, to be somewhat more difficult to apprehend: and it seems his Master confessed, that the Rules of his Art reached not to produce that effect with any certainty, and therefore concludes this in Him, must spring from other Rules He had framed unto himselfe, out of his own attentive Observation.

Obser-

Observation. XVI.

THe exquisite and admirable perfection of his *juacious* hearing eye, which he attained unto by Art, is well imputed to the advantage that nature had justly given him in the sharpnesse of senses to supply the want of this; endowing him with an ability, and sagacity, to do beyond any other man that had his Hearing. *Zuinger* speaking of this mutuall suppeditation of the senses, saith, that if one sense (as the *Eare*) prove defective, more spirits are caried unto the rest, which makes their Actions though diverse, more powerfull; for, multitude of spirits makes much to exquisite hearing: an argument whereof we have in *Blind men* and *Moles*: for you may see that *Blind men* allways most exquisitely heare; and the *Mole* also which is *Blind* by Nature, is thought to have the sense of hearing most exquisite, because those

I spirits

spirit which should have served the victory vertue, they all are turned over to the *Eare*, and thereby make the *hearing* most exact. Examples of these advantages in *Blind men*, and the notable qualification of their *observant Eare*: *Camerarius* can afford you many, and the learned Relator in his Treatise of Bodies, one most remarkable of a blinde Schoole-Master. So likewise they who want their *hearing*, see more exactly, and their observations are more pregnant, because the sence of *hearing* doth not distract them other where, and being they can heare nothing, they looke alwayes more attentively, being Nature recompenseth in one sence the losse of another; and therefore we use when we would view a thing more exactly, to shut one Eye, and thereby the sight becomes more accurate. And if a man would *heare* more attentively, and with lesse distraction, let him shut his Eyes, and if he would see with lesse distraction, it were good for him to stop his Eares: for any one sence is more vigorous in sensation, when the other sensories are suspended from action.

Hence

Hence, as my Lord *Bacon* observes, sounds are meliorated by the intention of the sense, where the common sense is collected most to the particular sense of *hearing*, and the sight suspended; wherefore he supposeth sounds to be sweeter to Blind men then to others. The like perchance may be said of visible objects to *deafe* men, and that the subtleties of articulate sounds, or motions, are with more inquisitive delight and attention, contemplated by them.

As for the other senses, they do divers things beyond their ordinary function; so as one might say that perfection consisteth not in the distinctiō of the Organs of the sense; but in the continuall use of them: so carefull is Nature like a good mother, to make amends for a fault, that none should accuse her to be a step-mother: for what she taketh away in some of the senses, she allows, and recompenseth in the rest: insomuch as *deafe* and *dumb-men*, having a *double defect*, to wit of *speaking* and *hearing*, they usually have double recompence: this makes them good *naturall Physiognomers*. For as concerning the notes of the

affections which appeare in mens Faces, by instinct they know and discern them readier then we can; and as we know we are often beholding to the countenances of Men for the explanation of their Mindes; so they know by the *motions* of affections and passions that accompany the *motions* of speech, the passions that are vented in those *locall motions* of *Articulation*, made in the parts about the Mouth. And it may not bee so difficult to them as unto us, to conceive and distinguish of each *motion* and *signification* of the *lips*: for wanting the sense of *Hearing*, their *Eie* is more accurate, and apt to observation; so that wondring what those *motions* of mens mouths meane, and heedfully observing at severall times, noting both the occasion and the returne of that occasion, they ingeniously frame out of their owne observation, many things Art could not with any certainty instruct them in: so that the *apparent motions* of the *lips*, the *formes* of words seeme to have beene distinguished by the observation of some *deafe* and *dumb* men, without the helpe of a Teacher. Nature (the Patriarch of physick saith) being

being many times skilfull without a Teacher : for it seemes by some stories of *deafe and dumbe men* as they are recited by certaine Authors , that some, even of themselves without teaching, have fallen upon observing the *motions* made in *speaking* , and so have come to the understanding of the *received significations* of those *motions*.

Wee have, saith *Camerarius*, in Nuremberge a yong man and a yong maide, borne of one Father and Mother, of a good House, and well knowne, that are endued with a singular quick conceit; for although they be *Deafe and Dumbe by Nature* , yet can both of them reade very well, write, cypher, cast account : The young man conceiveth at first by signes that are made him, what he is required to doe, if his pen be wanting, by his countenance he sheweth his thoughts, being the quickest and cunningest at all Games , both at Cards and Dice, that one can finde among the Germans , although they there use great advisement and be marvellous ready and quick. His Sister passeth all other Maydes for working with her needle all kinde of Semp-

stry, Tapestry, Embroderie, &c. But above all the wonderfull *recompences* of Nature, this is remarkable in them; that most commonly as soone as they *see ones lips stir*, they *understand* his meaning: They are oftentimes at Sermons, and a man would say that they *draw* and *conceive* with their *Eyes* the *wordes* of the Preachers, as others use to doe with their *Eares*; for they will oftentimes, no body ever teaching them or setting them any Letters or Copies, write the Lords prayer, and other godly Prayers: Know by heart the Texts of the Gospels that are read upon Holy Dayes, and write them readily, when in the Sermons the Preacher maketh mention of the name of *Iesus*, the yong man is ready before any of the Hearers to take off his hat, and to bow his knee with all reverence.

Platerus makes mention of one borne *Deafe* and *Dumbe*, who neverthelesse could describe his minde in a Table book which he alwayes carried about him, and could understand what others also wrote therein. *Platerus* his Father reported of him, that when he with great zeale heard *Oecolampadius* preaching by the motion

motion of his lips, and his gesture, he understood many things, as he also could by any others lips that laboured before him. *Zuinger* speaking of this *Deafe* and *Dumbe* man (who was according to his relation) a Poyntmaker, sayes, that he heard *Oecolampadius* preaching, seeming to hear with his very eies.

The like ability of preception gained from his owne attentive observation (as I am informed by a Philosophicall Friend) had one *Gennet Lowes* a woman dwelling in *Edenburge* in *Stotland*, who being *Deafe* and *Dumbe* by Nature, could understand any one in her House, meere-ly by the moving of their lips. So that by their motions alone without a voice, or speaking aloud to her, she could exactly perceive their meaning.

The Civill Law seemes also to have tooke notice that men that are *Deafe* and *Dumbe* may come to heare others speake, by observing the moving of their Lips: For among their extraordinary Law Cases, they have inserted this recondit. and very seldome heard of notion touching *Deafe* and *Dumbe* mens perceiving the efficacy of others wordes, by the moving

of their lips, concerning whom their Institutions run thus :

A Deafe and Dumbe man cannot be appoynted a Tutor , although he may heare by the moving of lips. *Etiam si audiat ad motum Labiorum.*

A Deafe and Dumbe man although he understand another by the moving of his Lips, yet he cannot stipulari, that is, *interrogatus spondere stipem* : For it is *verbum interrogandi & ad promittendum inducendi*; yet they may contract, although not by stipulation, for if they understand others by the motion of their lips , they may contract in those things which are performed by consent, which is the opinion of *Bartolus*, and others who have commented upon the Body of the Civill Law.

The word of the Text of the Civill Law is *Surdus*, which I confesse is somewhat ambiguous , as the Civill Lawyers use it : Yet here as I conceive, it is meant of men originally Deafe , and so consequently Dumbe , which in the Case of stipulation is plaine , a Deafe man being excluded from that Act, for his defect of speech, and therefore I have enlarged the
Text,

Text, by making it speake out plaine.

Yet if there be two men *borne Deafe and Dumbe*, alike qualified by Art as the Spanish Lord is, they might *stipulari*, because they could both speake, for the Rule that excluds mutes is, *stipulatio nulla nisi uterq; loquatur*, and this would prove a new Case. And this Spanish Lord, who is yet living, may without breaking the Rule, doe as much with any man, which is another new case too.

And so may any one accidentally *Deafe* who retains his speech, and can *audire ad motum labiorum*, which is the case of Mr. *Crispe* the Brother of Sir *Nicholas Crispe*, whose dexterity in perceiving the meaning of men by the motion of their lips, is very well knowne to Merchants upon the Exchange, whom by this Art, which he hath gained by his owne attentive observation, he hath driven many a bargain: And it is very probable that sometimes this faculty was of great advantage unto him, for he might chance to overheare with his eye newes of the arrivall of some shippe and of some good bargain; when others who would perhaps keepe the intelli-

gence to themselves were not aware of it , and amid the buzzing noise of the Royall Bee-hive of our *Emporium* , where many speaking together , one articulate voyce confounds another , his eyes being vigilant upon the motions of mens mouthes , and no way distracted with that bartering noyse is there made, he might perceive a motion, which being a Merchant , he might easily turne to his owne profit ; this and many other advantages might be much furthered by the nimbleness of his hearing eye, it being conceived by some that ordinarily conversed with him , that by his eye, he many times apprehended a conceit or jest uttered by the Mouth , and was thereupon advanced to laughter , before they who had their hearing had any intelligence of it , who are faine to expect the slow information of a duller Organ of Sense; and there is good reason he should have the ods of them, since he hath two Senses united in one , and a double proportion of spirits to inable one Organ. Among other very strange things I have heard related of him touching this rare faculty ; I was told by Mr. *Harst*, who
keeps

keepe the Swan behinde St. *Nicholas* Shambles (upon occasion of some discourse with him about a sonne he hath, who is *Deafe* and *Dumbe*) that he being an Officer of the Traine Bands, and appointed to keepe the Scaffold cleere upon Tower Hill at the execution of Sir *Alexander Carey*, perceiving Mr. *Crispe* to presse on for a convenient place of Audience, he spake to him to forbear; who not hearing him, because his eyes were not upon him to minde him, continued to endeavour for a place of accommodation, untill Mr. *Hurst* being told by some who he was, and what defect he had in his hearing, he converted his resistance into observation, and suffered him to plant himselfe right against the front of the Scaffold; And he told me that when Sir *Alexander Carey* stood up to speake to the people, Mr. *Crispe* settled himselfe stedfastly to observe the motions he made, and kept his eyes riveted upon Sir *Alexanders* face during the time of his last speech, which he so perfectly understood and carried away with him, that he was able to relate it againe to others, who much wondred at the way

way of his perception; therefore if any man doubt of the certainty of ocular Audition, one houres acquaintance with Mr. *Crispe* would have resolved him in the truth of this businesse, for it was a plenary satisfaction *ipso facto*, but to have once beene in his company.

But betweene the writing and printing of this Tractate, this vowcher of Labiall interpretation by a sad accident is withdrawne from us, with the fatall fall of an overburdened feeling, whose danger-threatening crack (he being unfortunately *deafe*, and wanting the common Sentinells which were ordained by Nature to watch against the motion of all approaching dangers) could not so well evade, as otherwise he might have done: And however wee have beene thereupon enforced to alter the Tenses of the Relations concerning him with a (*vixit*) he hath left behinde him many living witnesses of his ability in understanding the efficacy of Labiall motion.

The same ocular faculty of Audition (as I am informed by a Philosophicall Friend) had one Dr. *Staple* a Physitian, who being incidently *Deafe* through
some

some Disease yet retaining his speech, could tell any ones meaning by the motion of their lips.

And it may be the capacity that *Deafe* men have of supplying their defect of hearing by observing the motions of mens mouths, may be the cause of that which I have partly observed in *Deafe* and *Dumbe* men, and have heard others relate more fully, that they will seeme discontented and be angry, if in your relations to them, among other motions and signes you make unto them, you doe not therewithall use the motions of speech which are made with the mouth; as if you defrauded them of the meanes of understanding you, and out of a slight regard held back from them the Key of your best intelligence.

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Observation. XVII.

HE could at the distance of a large chambers breadth, say words after one, that another standing close to the speaker, could not heare a syllable of. This argues

argues, that distance of place hinders not, if it be within the discernable reach of the *eye* : and that the Low pitch of an unaudible voice of speech, was no impediment unto him, being equally easie unto him who used his *eye* for an *ear*, to perceive and discern a *silent*, or an *audible Articulation* of speech; so he he had in view the *motion* of the lips, with which *speech* is as perfect and absolute in its *articulations*, as it is by any *audible enunciation*, the Eye being capable of the *sounds* those *motions* make, as they are bare *motions*; and I believe his information was more certaine then the *Auricular* usually is, which puts the *tongue* to so many what say you's : the *Eare* being duller and deceitfull, *sed verba oculis commissa fidelibus*, must needs afforde better intelligence : and I doubt not but he had one quality more then is here spoken of him; for, his *improved Eye* must needes be very quick in conceiving the *visible sound* of speech: and therefore I thinke, that if he that spoke to him had spoke loud that the Relator might have heard him, this instructed *hearing Oculist*, or *Ocular aurist*.

rist, would have understood the spakers minde by his *Eye*, sooner then the *Relator* could possibly have done with his *Eares*.



Observation. XVIII.

IN that the knowledge he had of what *Men* said, *Spring* from his observing the motions they made with their mouthes. This shewes he was instructed in the *Art* of *Labiall Augurie*, which we have proved to be a *rationall* and *usefull Art*, well grounded upon the principles of *Humane Philosophy*; and not only full of notions to delight speculation, but *usefull* and possible to be put in practise. Hence there was a necessity (as it follows in the *History*) that if he would concurrently converse with any, there was light required as the *medium*; for if he were in the darke, the objects of his *attentive Eye* were strait lost: or if he turned away his *face* out of his sight that spoke unto him. for then he was render'd incapable of what was said: so that this *Art* inabled him not to tenebrize,

brize, or to performe any *audible Act* in the night, and Nocturnall Lucubrations of speech, or candle-light discourse, might perchance prove deceitfull unto him: for it being a manifest, and *apparent motion*, which guided him to the *knowledge of their words*, the time proper for his observation, must be the all-revealing day: and it must be *day* in his body too, for if he should be stricken blinde, goodnight to all the Notions of this *Art*. A double care therefore had this Lord neede have of preserving his sight, since that lost, he would loose two senses in one; Naturall sight, and an acquired *hearing*, which would prove a double dammage unto him. We suppose also that some difficulties may encounter him in perceiving the naturall affections of the voice, and distinguishing the *literall motions of their mouths*, who have any impediment in their speech, by reason of the ill conformation, or constitution of the instruments of speech, by Nature, or any unhappy accident: for as in such case the judgment of the *Eare* will be uncertaine: so likewise would the *hearing Eye* of this Lord,

Lord, be somewhat put to it, to judge upon so imperfect an evidence : as for example, if he were to converse with one borne with his upper lip too short, that it sufficeth not afterwards to cover his *upper teeth*, not without some deformity of aspect, as, *Schenckius* knew an honest Matron of Patrician stock, was, whom he had long conversed with, in the Hague, who, although conscious of the defect, when she spoke with any by a wonderfull industry, and civility which she used to those that stood, or sate by her, by extending downe her *lip*, and drawing it over her *teeth*, she covered that deformity of Nature, with so great and faire an Art, that unlesse one had studiously observed her, it was not perceived : yet no question it caused some alteration in the forming of her words, and consequently might somewhat impede our Artist in discerning the *exact sense* of the *moving of her lips*. They also who are borne with haire lips, that is not whole, but rather cloven, must necessarily *falter in speech*, and consequently exhibit but an *uncertaine motion* of their *lips*, from which, nothing can

can be exactly collected to infer the verball meaning of the *endeavoured motions of the lips*. *Trincavellus* affirmes. He had seene some with such lips, who faultred not a little in their speech. Great *Blabber-lips* may cause a little alteration to puzzle the *ocular construction*, that is to be made upon the *lip-labour* of the speaker. They also who are troubled with the disease *Diarrhæa*. or a *Humerall lask* of the belly, and with a *Catarrh* which makes them wrest and writh their lips in speaking, their lips will not precisely answer the Rules of this observation. The like would a *Plaice-mouth* in the *Cynick Spasme*. Old men in the defect of their Teeth, which are one of the destined implements of speech. their breath flows not out repercussed, wherefore it sounds the lesse; therefore to remedy this evill, they presse their lips together inward, as it were to shut up the voyd spaces of their Teeth, which must necessarily cause some alteration from the *naturall* and *perfect* garbe of *verball motion*. And those who are edentuli by age, so those Nations who pay little homage to the Goddess *Dentilla*, as they of *Gagas*, and the subjects

Jeets of *Huacchataviac* in *India*, who have a *Tooth-Right* of beating out their fore teeth, were likely to put our Artift to it in discerning the pure naturality of their pronounced Letters. Those Nations that have any notable defect or exceffe in the *extant parts of their mouth*, must needs prefer exceptions against the generall Rules of this Art.

They of *Gambra* not far from *Jay*, are deformed, their *neather-lip*, hanging downe towards the breast, and is apt to putrifie, of which deformity being conscious, they trade with their Neighbors the Arabicks, without sight or conference, leaving their commodities in a certaine place, for which they have gold in exchange: their upper lip little as ours.

They report of Nations in the Inland part of the East that want their *upper-lip*. They in the Isle called *Dodyn* in the Indies, and the adjacent Isles (if we will beleeeve Sir *John Mandevil*, who hath not so much interest in the whetstone as some imagine) have *flat mowhs without lippes*. And others, their *lips* so great, about their mouth that

that when they sleepe in the sun, they cover all their faces with them. And Dwarfes that have no mouthe, but a round little hole, have no tongue, nor speake, but they blow and whistle, and so make signes one unto another. But above al, the language of Jamuli Island if it be as true, as strange, which is reported of them, would cause a great impediment and distraction in the perceiving the *Litterall and Verball meaning of their mindes*, whose Tongues have somewhat peculiar by Nature or Art; for they have a cloven Tongue which is divided in the bottome; so that it seemes double from the Roote, so they use divers speeches, and doe not onely speake with the voyce of men, but imitate the singing of Birds: But that indeed which seemes most notable, and indeede would puzzle our Artist most, They speake at one time perfectly to two men, both answering and discoursing, for with one part of their Tongue they speake to one, and with the other to another: But these Historically exceptions or likely impediments of this Art, I have admitted
and

and inserted rather for their strangeness than any weight of argument they have against the certainty of our Art, since all men know *exceptio firmat Regulam*.

To conclude these observations, the *Priest* who by his *Art* wrought his Miracle on this Spanish Lord, as is reported, was since in the service of the Prince of *Carignan*, where he continued with some that have neede of his paines, the same imployment as he did with the Constable of *Castiles* brother, who as I heare is yet alive, as his Tutor also is; the steps whereby he proceeded in teaching friendship, and three hundred Ryals may ere long informe me in, which produced in our intended Academy, will soone abolish all apprehensions of impossibility in this matter, by vertue of the countenance and justification of the event.

The first principles indeed are but simple and naked; but it is a wonderful thing to consider the great distance betweene them, and the strange readinesse and vast extent of speech resulting in proceesse of time out of them:

Whereof

Whereof it is enough for us to finde a ground for the possibility of the operation, and then the perfecting of it and reducing of it to such a height, as at the first might seeme impossible and incredible, we may leave to the energetically power of Art. Hee that learneth to read, write, or to play on the Lute, is in the beginning ready to lose heart at every step, when he considereth with what difficulty and slownes, he joyneth the Letters, spelleth syllables, formeth Characters, fitteth and breaketh his Fingers (as though they were upon the Rack) to stop the right frets, and to touch the right strings; And yet you see how strange a Dexterity is gained in all these by industry and practice; and a readinesse beyond what wee could imagine possible, if wee saw not dayly the effect.

Since therefore wee have arrived to decypher the Characters of Natures Alphabet, and can spellingly read the first syllables of it, wee neede not doubt that Art with excellent cunning can dispose all circumstances so aptly, as to speake readily a compleat Language

guage rising from those Elements ; and that should have as large an extent in practise and expression beyond those first principles, which we like children onely lisse out . as the vast discourses of wisest and most learned men are beyond the spellings of infants : and yet those discourses spring from the same root, as the others spellings do, and are but a raising them to a greater height : as the admired Musique of the best player of a Lute or Harpe that ever was is derived from the harsh twangs of course bowe-strings, which are composed together and refined , till at length they arrive to that wonderfull perfection. And so without scruple, we may in this busines conclude, that the admirable and almost miraculous effect we heare of in this Relation , are but the elevating to a wonderfull height, those very actions and motions which we have heere produced as causes and principles of them.

FINIS.

